

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**AN ANALYSIS OF FOREIGN DIRECT INVESTMENT: THE CASE
OF ETHIOPIA: CO-INTERATED VAR APPROACH**

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An Analysis of Foreign Direct Investment: The Case of Ethiopia: Co- Integrated VAR Approach

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This is to certify that the thesis prepared by Asmelash Berhane, entitled: the Analysis of Foreign Direct Investment : the case of Ethiopia and submitted in partial fulfillment of the requirements for the Degree of Master of science (International Economics) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

This paper gives analysis on Foreign Direct Investment (FDI) in Ethiopia based on study using Co-integrated VAR approach over the period 1974/75 to 2013/14. It in particular examines the trend of FDI inflow on regional, sectoral and by country of origin bases. The study also discusses why Ethiopia is conducive for Foreign Direct Investment, the area of opportunity, the problems faced by foreign investors and the institutional and regulatory framework.

In order to point out the main factors that can highly affect the inflow of FDI in Ethiopia and to know how much these factors affect FDI leading to an oscillating trend, the study took the determinant of FDI in Ethiopia such as infrastructure development, the domestic market size and growth potential, macroeconomic stability, human capital development, openness, and external debt and evaluate as to how they affect the inflow of FDI. In the analysis there are findings. Firstly, I found that in the long run explanatory variable such as infrastructure development, the domestic market size, Human Capital, openness, and external debt are found positively related and statistically significant while inflation rate is negatively related and statistically significant. Secondly, in the short run Gross Fixed Capital Formation and inflation become negatively related and they are statistically significant while Gross Domestic Product is positively related and statistically significant that supports the hypothesis that the growing economy attracts more FDI. While the remaining variables of debt servicing, openness, and human capital has a positive coefficient but is insignificant in the short run. Thirdly, there is bi directional causality between Gross Fixed Capital Formation and FDI and the variables of inflation, Gross Domestic Product, Debt Servicing, Openness and Human Capital does Granger- causes foreign direct investment but not the other way around. Overall, the major policy implication of this study is that, foreign direct investment is more determined by infrastructural activities, market size, macroeconomic stability, and openness in long run case. Hence, in order to increase the inflow of FDI first it is very crucial to concentrate on the above economic activities. On the other hand, I found that economic growth has positive and significant effect on FDI. These suggest the decisive role of growth in stimulating investment by foreign as well as domestic investors. Hence, the current fast economic growth of the country signals a country's economic prospects and encourages foreign investors.

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Acronyms

ADF : Augmented Dickey-Fuller

AIC : Akaiki Information Criteria

AR : Auto Regressive

AR : Auto regression

ARDL : Autoregressive-Distributed Lag

BOP : Balance Of Payments

CAPRI: Collective action and property Rights

DUM : A dummy variable for inward looking and outward looking regime

ELG : Export-led growth

EU : European Union

FPE : Final Prediction Error

GDP : Gross Domestic Product

GNP : Gross National Product

HCA : Human capital

HQ : Hannan-Quinn Information Criteria

IGE : Imperial Government of Ethiopia

IMF : International Monetary Fund

IRF : Impulse Response Functions

IS : Import Substitution

JB : Jarque-Berra

LAB : Active Labour force

LDCs : Less Developing Countries

NBE : National Bank of Ethiopia

NTB : Non Tariff Barriers

OLS : Ordinary Least Square

OPE : Trade openness

PP : Phillips-Perron

R&D : Research and Development

RGDP : Real gross domestic product

SFDP : Second Five Year Development Plan

SIC : Schwarz (Bayesian) Information Criteria

SSA : Sub-Saharan Africa countries

TGE : Transitional Government of Ethiopia

U.S : United States

UN : United Nation

VAR : Vector Auto regression

VDC : Variance Decompositions

VECM: Vector Error Correction Model

WB : World Bank

WDR : World Development Report

WTO : World Trade Organization

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Foreign Direct investment (FDI) is defined as “any form of investment that generates income in the enterprise, functioning outside the home territory of the investors” (Sharan, 2006). Basically, FDI means foreign investment made by direct investors in host countries either to build up new production set up or to purchase a least share of existing firm (Bannock *et al*; 1998, Saddighi; 2001). Rizvi (2010) pointed out that “FDI not only is just transfer of money resources but it is a mixture of financial and intangible assets such as technologies, managerial capabilities, marketing skills and other assets”. One of the arguments in favor of FDI is that it creates a long term relationship between foreign investors and the domestic firms, having considerable control over the management of enterprise (IMF, 1993). Individuals, enterprises, financial institutions, Multinational Corporations (MNCs), and even governments are the examples of direct investors. MNCs make some of their production in a foreign country, so FDI is soul of MNCs. FDI may also be defined as “foreign investors make investment in the infrastructure of foreign country to set up organizations, production facilities or to develop infrastructure units” (UNCTAD, 1985).

For the economic growth of a developing country, Foreign Direct Investment (FDI) is said to be very crucial. Because many developing countries especially Africa has low domestic saving and low income to fund investment, FDI provides the capital to fill the saving and investment gap. It also contributes to economic development through: transferring advanced technology and organizational skills; generating technological spillover and creating linkage with local firms; generating employment and developing the skill of human capital and helping to create competitive business environment.(Basu and Guariglia 2007; Gohou and Soumare, 2012). In recent times, most empirical studies conclude that FDI enhances factor productivity, the efficiency of resources use and national income of the host country (OECD, 2012). A study on 58 developing countries also concludes that FDI enhances private domestic investments Douglas et al, 2003).

As a result of this, in the present globalized world, many countries spend enormous resources and time to design policies that encourage the inflows of FDI, as appropriately designed policy plays important role in promoting FDI inflows. Among these countries Ethiopia is now actively

seeking for promoting FDI by trying to create a favorable environment for it. According to Haile and Assefa (2006) some of the measures taken include economic and political reforms aiming at macroeconomic and political stability, investment in infrastructure and human capital and liberalization of trade

The government of Ethiopia issued an investment code in 1992G.C and made consecutive amendments in 1996G.C, 1998G.C, 2002G.C and 2012G.C. At present, the Ethiopian Investment Commission (EIC) is the autonomous government institution that has been restructured itself by proclamation no. 849/2014 with the view of promoting more FDI and improving the service it renders to investors. The EIC is accountable to the investment Board and the board is chaired by the Prime Minister, a commissioner who is also member of the board heads the EIC. Whereas the previous autonomous government institution i.e., the Ethiopian Investment Agency (EIA) was accountable to the Investment Board, the Board was chaired by the Minister of Industry, and it was headed by a director general who is also member of the Board.

Hence, this paper try to give detailed analysis on FDI in Ethiopia by dividing the study into six sections following the introduction chapter, chapter two dealt with available literature on FDI, Chapter three looks at the overview, determinants and overall analysis of FDI including the institutional and regulatory frame work . Chapter four presents the data source and methodology part followed by the empirical result and discussion in chapter five. In the last chapter, we will forward conclude and possible policy implication.

1.2 Statement of the Problem

In advanced economy, the part of the government to boost foreign direct investment (FDI) is not being the provider but being the enabler. That is, the government should create a stable and business friendly environment by achieving macroeconomic stability and fostering policies which favor investment and making job creation much easier.

In order to meet the Millennium Development Goals and to be the lower middle income country in 2025, Ethiopia is on fast track of economic growth. By realizing the inadequacy of the

domestic capital and in recognition of the role of the private sector in the economy, the government of Ethiopia has opened several economic sectors to foreign investors and revised over five times the investment code over the last twenty four years (1992-2014) to make it more transparent, attractive and competitive (EIA,2014). In addition to that, according to Ethiopian investment agency (EIA), major positive changes regarding foreign investment have been introduced through investment proclamation number 769/2012.

The prioritization of FDI in the country is for various reasons such as for foreign currency generation, creation of job opportunities, transferring technology and making the vision of industrialization a reality. In order to boost the inflow of FDI, the country has been adopting and undertaking all rounded and extensive activities of economic diplomacy. For instance, the government has been promoting the comparative advantage strategy that the foreign investors could have in Ethiopia such as the availability of cheap labor force, low investment cost and lucrative investment incentives.

At present, Ethiopia is seen as a potential candidate for investment due to vast fertile land, investment incentive for foreign investors, leased land at the cheapest price, cheap work force, its developing infrastructural development, economic growth, as well as the fact that Ethiopia is the political hub of African countries and conducive geographic placement which has acquistic position to the middle east and Europe.

According to Kenichi ohno (2013), the government of Ethiopia accepts its uncertainty in its FDI policy whether it is on the right track or not and added that the investment proclamation can be changed if it is appropriate and better for the majority of investors. In recent period, government's priority is privatize Industrial zone developers , but adjustment must be made on

the policy because the country cannot wait forever regarding minimum capital requirement, previously the nation wanted to reserve small and middle scale enterprises (SME) sector for local firms and invite only large FDI. But the government now knows that some foreign small and middle scale enterprises (SMEs) are creative. Foreign small and middle scale enterprises (SME) are welcome as long as they add value and transfer technology to Ethiopia.

Other than the natural potential, doing business in Ethiopia is easier than other African countries. According to a 2013 survey conducted by the World Bank, Ethiopia ranks seventh out of all African countries in terms of the ease of doing business. Investors are coming to various economic sectors where Ethiopia has comparative and competitive advantage and FDI is becoming diversified across various sectors such as manufacturing, and agro-processing. In addition, the government also offers various packages of incentives in terms of tax breaks and import duty exemptions. The one – stop investment center is also one measure taken by the government to reduce the cumbersome beaurocracy that the foreign investors face when they came to invest. However, still investors mention some aspects which hinder them from operating in the country such as customs clearance and tax procedures, currency convertibility and exchange rate, tax administration irregularities, finance and lack of skilled workers

The flow of FDI has been growing high throughout Africa in general and in Ethiopia in particular. Ethiopia is increasingly becoming an investment destination for many foreign companies. This high FDI inflow has been attributed to the fast paced economic progress the country has been making over the past couple of years. Generally, though the trend of FDI inflow to Ethiopia in the past couple of years is encouraging, there is a lot to be done since Ethiopia is the fourth largest market in Africa.

1.2 Objectives

The general objective of the study is to analyze Foreign Direct Investment (FDI) in Ethiopia. The specific objectives are:-

- i. To discuss the strong side and point out the major obstacles that hinder foreign investors from investing in the country
- ii. To test what economic variables affect FDI in Ethiopia, and
- iii. To give detailed presentation on the inflow of FDI to Ethiopia in the past years

1.3 Data and methodology

In analyzing the Foreign Direct Investment in Ethiopia the study uses data from (1974/75-2013/14). i.e., some forty years and relay on secondary data from Ethiopian investment Commission (EIC), National Bank of Ethiopia (NBE), Ministry of Finance and Economic Development (MoFED), world investment report and country reports published by the United Nation Conference on Trade and Development(UNCTAD). In the study annual FDI inflows is used to measure the FDI. Both quantitative and qualitative methods of data analysis are used. The econometric method employs co-integrated vector auto regressive technique and vector error correction analysis using time series data from 1974/75 – 2013/14.

1.4 Significance of the study

The significance of conducting this study is to fulfill the gap that is seen on the ups and downs trend of FDI inflow to Ethiopia in a way that is discussed below:

Firstly, to notice the trend of FDI in the country and to discuss the possible reasons for the ups and downs in the trend. Secondly, the study is useful to show the path for better performance and

boost of FDI in Ethiopia. Thirdly, the study will present detailed discussion on the prevailing obstacles to FDI from every stockholders and came up with binding argument for the solution.

Chapter Two: Literature Review

2.1 Theoretical literature

2.1.1 Essence and main concepts of FDI

According to the IMF (1993) and OECD (1996), the formal definition of FDI is “foreign Direct investment reflects the objective of establishing a lasting interest by a resident enterprise in one economy (“*direct investor*”) in an enterprise (“*direct investment enterprise*”) that is resident in an economy other than that of the direct investor”. The “*lasting interest*” implies the existence of a long-term relationship between the direct investor and a significant degree of influence on the management of the enterprise. “*Significant degree of influence*” and “*long-term relationship*” are the key words to distinguish FDI from portfolio investment, which are short term activities undertaken by the institutional investors through the equity market. A “*lasting interest*” in foreign entity emphasizes the difference to other forms of capital flows and occur in the form of know how or management-skill transfer (Lipsey, 2003).

Foreign direct investment is not just a capital movement. In addition to capital, a controlled subsidiary often receives direct input of managerial skills, technology and other tangible and intangible assets. Unlike portfolio investors, direct foreign investors have substantial control over the management of foreign subsidiary. In fact, “balance of payment accountants define FDI as any flow of lending to, or purchase of ownership in, a foreign enterprise that is largely owned by the residents (usually firms) of the investing country” (Thomas A. and Peter H. 2000). According to the IMF (1993) Balance of payment manual, an investment by a foreign investor is regarded as FDI if the direct investor holds at least 10 percent of the ordinary share or voting power of a firm.

Types of FDI

There are different types of FDI. These include Greenfield investment, cross border merger and acquisition, and reinvested earnings. Greenfield investment refers to the establishment of a new firm that in turn enables to create productive assets in a host country. Usually, it is financed by capital coming from the investor’ country. A transfer of ownership of local productive assets to a foreign investor is referred as international or cross border merger and acquisition. Reinvested

earnings refer part or all of the profit that is not repatriated to the investor' country but reinvested in the host country (UNCTAD, 1998).

FDI can also be classified to two i.e., from the perspective of investors and from the perspective of the host country. From the perspective of the investors, FDI is classified to three main types. i.e., vertical, horizontal, and *conglomerate FDI* (Caves, 1971). For Caves, *Horizontal FDI* refers to the undertaking for the purpose of horizontal expansion to produce goods and services roughly similar to those the firm produces in its home market. This type of FDI is called "horizontal" because the multinational duplicates the same activities in different countries Lipsey 2003 (as cited by Alexander 2003). Horizontal FDI arises because it is too costly to serve the foreign market by exports due to transportation costs or trade barriers. *Vertical FDI*, on the other hand, refers to those multinationals that fragment production process geographically for the purpose of providing input goods to parent company (backward vertical FDI) or to draw inputs from parent company for own production (forward vertical FDI) (*ibid*). It is called "vertical" because MNE separates the production chain vertically by outsourcing some production stages abroad. The third type of FDI, *conglomerate*, involves the former two types of FDIs.

From the host country perspective, FDI can be classified in to three; Import substituting FDI , Export increasing FDI and Government initiated FDI . Firstly, Import substituting *FDI* involves the production of goods previously imported by host country, necessarily implying that imports by the host country and export by the investing country will eventually decline. This kind of FDI is likely to be determined by the size of host country market, trade barriers and transportation costs (Moosa 2002). Secondly, Export oriented *FDI* is described by Reuber (1973) as the type of investment that reflects a wide range of consideration such as the desire to develop secondary and more diversified sources of supply by way of obtaining lower-cost products to be used either as inputs or for sale elsewhere. Export increasing FDI is motivated by firms desire to seek raw material and intermediary products. Host countries will increase its export of raw material and intermediary products to investing country or other countries where the firm has other subsidiaries. Examples of this type of investments are found in the raw material sector. Generally, such foreign investors are mainly interested in extracting products from the host country and selling them abroad through established market channels. In making such

investments, firms sometimes also create a supporting infrastructure such as housing, hospitals and schools. This investment focuses on the needs of a particular market which is largely or entirely outside the host country (Reuber, 1973:73). Thirdly, Government initiated *FDI* involves government's action to attract more FDI in order to eliminate its balance of payment deficit (Moosa 2002). Government may provide the necessary investment incentive to attract foreign investment into its economy. These are accepted by investors whereas market as well as cost conditions may have precluded them from investing in the host country under normal or no-incentive conditions. For example, in Ethiopia the incentives take the following forms: 100 percent exemption from customs duties and import taxes on all capital equipment and up to 15 percent on spare parts; exemption from export taxes (except for coffee); income tax holidays varying from two to eight years (depending on the sector and region within Ethiopia); tax deductible R&D expenditure; no taxes on the remittance of capital; the carrying forward of initial operating losses; and investor choice in depreciation models, full repatriation of capital and profits encompassing not only profits, dividends and interest payments on foreign loans but also on asset sale proceeds and technology transfer payments (EIA 2012a).

Finally, FDI may be classified into expansionary and defensive types. Expansionary FDI seeks to exploit firm specific advantage in the host country. This kind of FDI benefited MNCs in increasing sales both in host and investing country. Defensive FDI seeks for cheap labor or materials with the objective of reducing cost of production (Chen and Ku, 2000).

2.2 Pro and Anti - FDI views

2.2.1 Pro-FDI Views

Economic growth depends on the rate of investment which in turn largely depends on savings. However, gross domestic savings are too low in the least developed countries (LDCs). Foreign direct investment is an alternative source to fill the gap between savings and the required investment. Foreign firms bring not only financial capital but also managerial techniques as well as, entrepreneurial and technological skills that lack in LDCs and these skills can be transferred to domestic firms through different channels. The government's budget deficits can also be filled by profit-tax may be collected from transnational companies (Todaro, 1992).

The total amount of foreign exchange that can be obtained from export and net public foreign aid falls short of foreign exchange that is required by LDCs. FDI can help to fill this gap by reducing part or the entire deficit in the balance-of-payments. Moreover, multinational companies manufacturing products that can be exported are able to generate net positive export earnings (Todaro, 1992). FDI can also play important role by creating employment opportunities and by integrating the host-country economy in to the world economy (OECD, 2002)

2.2.2 Anti-FDI Views

There are group of scholars that strongly disagrees with the positive view on FDI that has been explained above. Their arguments are presented in the following. The first counter argument says that Multinational Corporations (MNCs) increase income for low income groups, which have low propensity to save. If individuals do not save enough, the gap between savings and investments cannot be closed. Besides, foreign firms may also fail to reinvest the profit they generate in the host country; hamper the growth of domestic enterprises and domestic investment by importing the input and intermediate product from their subsidiaries in other countries. FDI might also inhibit the development of indigenous skills as the result of multinational companies' dominance over local enterprises (Todaro, 1992).

Certainly, initial investment of foreign firms improves the current and the capital account of the host country. However, in the long run, substantial import of intermediate and capital goods, repatriation of profit, interest, royalties and management fees may harmfully affect the foreign exchange position of the host country (OECD, 2002).

Transnational companies contribute to close the gap between locally collected tax and targeted revenue. However, governments often enter in to exclusive agreements with foreign firms and provide tax holidays, tariff protections, and investment allowances. Due to these reasons, the taxes that can be collected become quite small. Moreover, these firms can avoid local taxation by transfer pricing techniques a method used to reduce local profit level by paying artificially inflated prices to the intermediate products purchased from abroad subsidiaries (Thomas and Peter, 2000).

2.3 Determinants of FDI

Determinants of FDI are those factors that can make the flow of FDI in the host country to increase or decrease. Countries try to improve these elements in order to enhance the amount of inflow in order to reap higher amount of FDI. These elements are discussed in detail as follows:

Infrastructure development

Infrastructure development is one of the well-recognized factors for economic growth as well as attracting FDI. The main argument is a well-established infrastructure such as roads, airport, electricity, water supply, telephones, and internet access will reduce the cost of doing business and help maximize the rate of return. It is suggested that the availability of a good quality infrastructure subsidizes the cost of total investment and increasing efficiency of production and marketing. According to Birhanu (1999), availability and reliability of telecommunication services, developed and adequate road and air transport services, reliable water and electricity supply facilities have paramount importance for the profitability of foreign companies and in attracting FDI.

Human Capital

In order to achieve higher economic growth and also to attract huge FDI, it is necessary to have Large, efficient, and educated population. Evidence gathered from the literature reviews has shown that the presence of skilled human capital as a pull factor for foreign MNCs. It is often said that countries with a large supply of cheap but skilled human capital attract more FDI and thus progress economically. The conventional wisdom has it that a more educated labor force can learn and adapt to new technology faster, and is generally more productive. Especially in this age of high tech, it is suggested countries that try to attract FDI should have the required human capita to run the high-tech industries.

Trade Openness

According to Tewodros (2014), the ease of capital movement to and out of the country and the trade openness of the country affect the flow of FDI. The standard way of thinking is that countries with capital control and restrictive trade policies discourage business, compared with countries with liberal policies. Openness of a country could be expressed in different ways. Among others, trade restrictions, tariffs, and foreign exchange control law could be mentioned.

Inflation

Through its effect on the cost of inputs and the price of outputs, inflation reduces the real return on investment and firms' competitiveness. Hence, countries that pursue policies that reduce inflation rate have better chance in attracting FDI. Low and predictable inflation rate is central for the long-term investment of both domestic and foreign companies. Therefore, higher and unpredictable inflation will decrease the inflow of FDI (Birhanu, 1998).

The size of Domestic Market

The size of the domestic market is a fundamental determinant of FDI. The wealth and development of a country can be used as proxy to measure the size of the domestic market. Most commonly, per capita income (PCI), which is an indicator of effective demand, is used to measure the size of local market. In addition to PCI, the GDP of a country and the population size are also used as an indicator to measure the size of local market. However, if a firm is export-oriented and not market seeking, the size of domestic market will not be an important determinant of FDI (Root and Ahmed, 1979). A large market can help firms producing tangible products to achieve scale and scope economies. The domestic market growth rate which is measured in terms of population and GDP growth rate also determines the inflow of FDI into a country (UNCTAD, 1998).

Natural Resources

Natural resources, historically, are the most important determinants of FDI. From the 19th century up to the eve of the Second World War about 60% of the world stock of FDI was in natural resources. The need to secure economic and reliable sources of mineral and primary

products for the (then) industrializing nations of Europe and North America, natural resources were the major reason for the expansion of FDI (Dunning, 1993). Birhanu (1999) noted that countries that have sufficient deposit of some minerals can attract foreign investors particularly those involved in exploitation of natural resources.

Low Labor Cost

Country's factor endowment is commonly understood as the amount of land, labor, capital, and entrepreneurship that a country possesses and can exploit for different sectors. The Rybczynski theorem (1955) explained that increasing the level of the labor supply will lead to raise production of the good which uses that factor intensively. In China, foreign investors try to benefit from cheap labor especially where production is labor intensive (Ali & Guo (2005)). In addition to cheap labor, the out-put labor ratio (labor productivity) also determines the inflow of FDI.

Exchange Rate Variability

Frequent and erratic changes in exchange rate of the domestic currency affect the inflow of FDI (Goldberg and Klien, 1997). Exchange rate devaluations have a twofold role in explaining variations in FDI. On the one hand, the real value of foreign investors' capital increases when the host country's currency is devalued. On the other hand, frequent and continuous declines in the value of host country's currency would decrease FDI inflow, as it creates high uncertainty (Accolley et al, 1997).

Political Factor

It is often said that investors are generally less interested in investing in a country with high political instability. The economic process of a country and in particular the inflow of FDI into a country can be disrupted by unsettled, implicit or explicit, internal or external political disputes and crises. Without stable political conditions, whatever the economic environment may be, a country's effort to create a more hospitable environment for oversea investors cannot be fruitful. Political instabilities can delay FDI until the storm weathers away or diverts away for good (Birhanu and Kibre, 2003).

Legal and Regulatory Framework

While stable, transparent and reliable legal and regulatory frameworks promote both domestic and foreign investment, an inefficient and ineffective legal system is an impediment to enforce laws and contracts. (Birhanu and Kibre, 2003). However, UNCTAD (1999) indicated that an efficient and transparent legal system, and in particular LDCs, does not automatically make a country more attractive for FDI.

External Debt

High external debt is a symbol of irresponsible macroeconomic policy. An increase in the countries' debt-to-GDP ratio will reduce the flow of FDI to the country. According to Tewodros Zerihun (2014), that external debt overhead undermines a countries ability to meet its external obligations and increase external vulnerability.

Fiscal Deficit

The fiscal deficit of a government, whether it is financed through printing additional bank notes or through taxation (which equally leads to inflation), decreases the real return on investment (Serven and Solimano, 1992). Moreover, in many developing countries it is apparent that due to excessive government borrowing the financial resources available for the private sector are limited and the interest rate is high. On the other hand, expansionary fiscal policy may be important for the expansion of public sector investments on infrastructure (UNCTAD, 1998). In general, the overall impact of fiscal deficit as empirically tested by different studies is ambiguous. However, the theory postulates that there is a negative relationship between fiscal deficit and FDI inflows (Accolley et al, 1997).

Privatization

Privatization provides a concrete vehicle for TNCS to invest in a country. It has generated substantial amounts of FDI in many developing economies. Sound privatization programs have three main characteristics: political commitment, business orientation, and transparency. Largescale privatization programs send a signal to foreign investors that a government is taking steps to create a climate conducive to FDI. Thus, FDI in privatization of infrastructure enterprises (e.g. telecommunications) and industrial enterprises would have great impact on other FDI flows (IFC&FIAS, 1997).

Investment Promotion Strategy and Incentive Structure

Investment incentives are FDI policy instruments used to attract foreign investors. These include tax reductions & exemptions, special tax allowances, financial incentives such as low interest loans, subsidies as well as grants. Investment guarantees (e.g. guarantees for repatriation of capital and transfer of profits, and guarantees for provision of foreign currencies) can also be seen as an incentive to attract TNCs. Bilateral and multilateral investment treaties are also an incentive to increase investment, through creating a predictable investment climate, thereby improving direct foreign investors confidence (Birhanu and Kibre, 2003). However, investment incentives are not substitutes for other determinants like infrastructure and market size. This clearly indicates that the effectiveness of investment incentives is highly determined by the host country's level of development (UNCTAD, 2000).

As regards investment promotion, “some economists argue that, if countries would only get their investment policies right, investors would search out all worthwhile investment opportunities” (IFC& FIAS, 1997:49). In reality, not all prospective investors search for opportunities; as a result, investment promotion is vital particularly in least developed countries (LDCs). Image building, investment generation and investors servicing are the three main elements of successful investment promotion. Investment promotion agencies can help the investment process if they identify sectors and clusters of activities where comparative advantages exist and where new ones can be developed (IFC&FIAS, 1997).

Regional Integration

Regional trade agreements can play an important role in terms of enhancing FDI inflows to member countries, through creating access to regional markets. Thus, strong regional integration through trade agreements can influence the investment decisions of TNCs. Mwilima (2003) point out that regional integration is a determinant of market-seeking FDI. The benefits of regional integration depend on a respective country's domestic market size, level of infrastructure development and availability of skilled and cheap labor force compared to other member countries.

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2.4 Theoretical explanation of FDI

At present the issue of FDI has got more attention at global and national level. Different theoretical literatures have been done to explain the issue of FDI. A group of scholars such as J.Dunning, S.Hymer and R.Vernon...et al. are among the contributors in developing various theories of FDI.

The theoretical explanation of FDI largely stem from traditional theories of international trade that are based on the Ricardo's model of comparative advantage and differences in factor proportion or in factors endowments between countries of Heckshier and ohlin (HO). (Harrison et al, 2000).Comparative advantage theory which is based on two countries, two products and single factor i.e. labor (2-2-1 model) explain that international trade or export, i.e. an alternative

to FDI, takes place if a country has a comparative advantage in producing a particular good (Krugman and Obstfeld 2006). This theory entirely forgot to explain FDI and fails to provide an answer as to why firms choose to operate outside their country of origin (Haile & Assefa, 2015). HO model of international trade which involves two countries, two products and two factors of production such as capital and land (2-2-2 model), also fails to explain FDI than focusing on international trade. Robert Mundell 1957, developed a model which involves two countries, two goods, two factors of production and two similar production functions in both countries, where production requires a higher proportion of factor than the other. According to Haile & Assefa (2015), this also fails to explain the international production of goods through the flows of investment across countries. Therefore, all this failures of the traditional international trade theories in explaining the motives of MNCs to operate outside their economy led to the development of the following theories;

2.4.1 Portfolio investment theory

The theory of portfolio investment (the neo-classical financial theory of portfolio flows) is one of the earliest explanations of FDI (Haile & Assefa, 2015). The base for this explanation lies in interest rate differentials between countries. Capital, according to this explanation, moves in response to changes in interest rate differentials between countries/regions and multinationals companies are simply viewed as arbitrageur of capital from countries where its return is low to countries where it is high. This explanation, however, fails to account for the across movements of capital between/across countries. In practice, capital moves in both directions between countries. In addition, that capital is only a complimentary factor in direct investment and that this theory does not explain why firms go abroad contribute to the criticism of the neo-classical theory of portfolio investment (Harrison et al, 2000).

2.4.2 Product life-cycle theory

This theory was developed by Raymond Vernon in 1966. The theory focuses on four stages of production cycle i.e. *innovation*, *growth*, *maturity* and *decline*, and explains FDI as part of this cycle. In other words, This theory focuses on the role of innovation and economies of scale in determining trade patterns. It states that FDI is a stage in the life cycle of any product from its invention to maturity. Any product is first manufactured in the home country for the home market. When the home market is saturated, the product is exported to other countries. At later

stages, when the new products reaches maturity and loses its uniqueness, competition from similar regular products becomes more intense. At this stage producers would then look for lower cost foreign locations. This theory shows how markets seeking and cost reduction motives of companies lead to FDI. It also explains the behaviors of multinational companies and how they take advantage of different countries that are at different level of development. Additionally, it has been noted that Vernon's theory perceives FDI as defensive strategy by firms to protect their existing market position (Dunning, 1993). However, it is noted that this theory fails to explain why FDI is more efficient than exporting or licensing for operating abroad and it is not supported by empirical evidences as some of MNCs operate both at home and abroad simultaneously (Chen, 1983).

2.4.3 Internalization theory

This theory tries to explain why multinational companies open subsidiaries in foreign countries than selling their technology. The theory was pioneered by Hymer (1976). As cited on Abiyot (2013), Hymer argued that the needs to exercise control over operation is the main motives for FDI than the mere flow of capital. He states that for firms to engage in cross-border activities, they must possess some kind of monopolistic advantages. The advantages result from foreign company's ownership of patents, know-how, managerial skills and so on and these advantages are unavailable to local companies. His argument relies on the existence of market imperfections, such as difficulty of marketing and pricing know-how, or in some cases markets may not exist for such products, or if they exist, they may involve huge transaction costs or time-lags. In such cases it would be more efficient for the company to engage in direct investment than exporting or licensing. FDI will allow the companies to control and exploit their monopoly power to the full.

2.4.4 The Eclectic paradigm

The popular works of John Dunning called the "Eclectic theory" stated that, FDI is determined by three sets of advantages and these could help to summarize the above three theories. That is, the MNEs must have some advantages specific to the firm and readily transferable within the firm and between countries (Dunning, 1988). Dunning (1993) has identified three variables: ownership-specific (O), location-specific (L), and internalization (I), all identified in earlier theories of trade and FDI. The paradigm is also called as the **OLI framework**. The key assertion is that all three factors (OLI) are important in determining the extent and pattern of FDI.

Ownership-specific variables include tangible assets such as natural endowments, manpower, and capital but also intangible assets such as technology and information, managerial, marketing, and entrepreneurial skills, and organizational systems. Location-specific (or country-specific) variables refer to factor endowments as well as market structure, government legislation and policies, and the political, legal, and cultural environments in which FDI is undertaken. Finally, internalization refers to the firm's inherent flexibility and capacity to produce and market through its own internal subsidiaries. It is the inability of the market to produce a satisfactory deal between potential buyers and sellers of intermediate products that explains why MNEs often choose internalization over the market route for exploiting differences in comparative advantages between countries.

From these three advantages if only one is met, then firms will rely on exports, licensing or the sale of patent, to service foreign markets. Thus, the generalized predictions of the eclectic theory are that a firm can only capture a foreign market through FDI if it has the capacity to exploit simultaneously all the three advantages. In Dunning's eclectic theory, the ownership and internalization advantages are firm specific features while the location advantages are country specific characteristics which the host country can influence directly.

In general, countries that have location advantages can attract more FDI. But firms do not undertake FDI only for the presence of location specific advantages in the host country. Their location choice decisions consider the profitability with which the ownership and internalization advantage can be combined with the location ones.

The eclectic paradigm, like other theories of FDI, has some limitations. Firstly, it does not adequately address how an MNE's ownership specific advantages such as distinctive resources and capabilities should be deployed and exploited in international production. Possessing these resources is indeed important, but it will not yield high returns for the MNE unless they are efficiently deployed, allocated, and utilized in foreign production and operations.

Secondly, the paradigm does not explicitly delineate the ongoing, evolving process of international production. FDI itself is a dynamic process in which resource commitment,

production scale, and investment approaches are changing over time. The product life-cycle theory also falls short on explaining the dynamics of the FDI process.

Thirdly, the conventional wisdom seems inadequate in illuminating how geographically dispersed international production should be appropriately coordinated and integrated. The internalization perspective addresses how an MNE could circumvent or exploit market failure for intermediate products and services but does not discuss how a firm could integrate a multitude of sophisticated international production and balance global integration with local adaptation.

Dunning (1993) explained that the principal objective of firms in undertaking foreign production is to advance their long-term profitability. However, FDI is also MNC's strategic logic underlying FDI than a prime profitability motive. For example, some firms may try to diversify or reduce risks, and to match competitors' actions. The following strategic logics were identified by Dunning (1993) as the possible motives for FDI:

Resource seeking FDI: is Investments which seek to acquire factors of production that are more efficient than those obtainable in the home economy of the firm. In some cases, these resources may not be available in the home economy at all (e.g. natural resources, and over words - naturally occurring materials such as coal, fertile land, etc., that can be used by man, and cheap labor).

Market-seeking FDI: MNCs attempt to secure market share and sales growth in the target foreign market. Apart from market size and the prospects for market growth, the reasons for market-seeking FDI include situations in which (a) the firm's main suppliers or customers have set up foreign producing facilities abroad and the firm needs to follow them overseas; (b) the firm's products need to be adapted to local tastes or needs, and to indigenous resources and capabilities; and (c) the firm considers it necessary, as part of its global production and marketing strategy, to maintain a physical presence in the leading markets served by its competitors.

Efficiency-seeking FDI: attempts to rationalize the structure of established resource-based or marketing-seeking investment in such a way that the firm can gain from the common governance of geographically dispersed activities. MNEs with this motive generally aim to take advantage of

different factor endowments, cultures, economic systems and policies, and market structures by concentrating production in a limited number of locations to supply multiple markets.

Strategic asset-seeking FDI: MNCs use this strategy to acquire the assets of foreign firms so as to promote their long-term strategic objectives, especially advancing their international competitiveness. MNEs with this intention often establish global strategic alliances or acquire local firms.

Many MNEs today pursue pluralistic goals and engage in FDI that combines characteristics of several of the preceding categories. In the survey of De mellow (1997), two main channels through which FDI may be growth enhancing are listed. First, FDI can encourage the adoption of new technology in the production process through capital spillover. Second, FDI may stimulate knowledge transfer, both in terms of labor training and skill acquisition and by introducing alternative management practice and better organizational arrangements. A survey by OECD (2002) underpins these observations and documents that 11 out of 14 studies have found FDI to contribute positively to income growth and factor productivity. According to de mellow (1997) and OECD (2002), FDI affects growth is likely to depend on the economical and technological conditions in the host country. In particular, it seems that developing countries have to reach a certain level of development, in education and /or infrastructure, before they are able to capture potential benefits associated with FDI.

Generally, recently the issue of FDI is being paid more attention, both at national and international level because it passes different packages of benefit in it and countries are striving to enhance the inflow so as to benefit from its package. According to Denissa (2010) the different optimistic ideas of economic theories to words FDI include; it could increase productivity, technological transfer, managerial expertise and know-how, international production network, reducing unemployment, access to external markets, and introduction of new processing methods. Moreover, (lemi and Assefe ,2009) argue that FDI is an important element in the development process of country, especially countries which have not adequate saving and inaccessible financial markets.

2.5 Empirical evidence on FDI

Most empirical evidences show that huge FDI inflow to the host country attributes the economic growth of that country. Using Cobb-Douglas production function and 47 African countries for the period of 1990-2003, (Sharma and Abekah, 2007) estimated the effect of FDI on the economic growth of Africa. Their result indicates that FDI has a positive effect on the growth of GDP in African countries. The key result shows one percent rise in the ratio of FDI to GDP leads to a rise in the growth of GDP by 0.71 percentage points. The study further indicates, FDI is more productive than Gross Domestic Capital Formation (GDCF) in Africa. Similarly, using an extended Cobb Douglas production function in 39 SSA countries for a period of 1980 -2000, the study found a statistically significant coefficient of 0.11 for the region (Seetanah and Khadaroo, 2007). The dynamic estimate shows a positive link between FDI and economic performance in the region. However, the result suggests, FDI's effect on the economy is relatively low compared to other studies done on different developing regions around the world.

Adams (2009) reviewed various empirical studies on the relationship between FDI and economic growth in SSA countries and concludes that FDI is a necessary but not a sufficient condition for economic growth. He indicates that FDI contributes to economic growth through augmentation of domestic capital, enhancement of efficiency through the transfer of new technology, marketing and managerial skills, innovation and best practices. The review noted that FDI has both benefits and costs and its impact is determined by the country specific conditions. The paper identifies the increase in FDI inflow into SSA has not led to a corresponding increase or positive effect on economic development of the region. Adams cited, the most important recipient of FDI in SSA in the 1990's in terms of GDP (22%) was Lesotho, but economic growth decelerated over the same period. On the other hand, while FDI flows to Botswana declined, the economy continued to grow. However, Adams went on to say, this is not to suggest that FDI is not needed in the SSA region, but rather FDI's growth enhancing effect is possible only when it stimulates domestic capacity of the host country.

Borensztein et al. (1998) empirically estimated the effect of FDI on economic growth of industrial as well as 69 developing countries, and the channels through which FDI may be beneficial for growth. The authors went further to see whether FDI affects growth by itself or

through the interaction with other terms. All regressions for this study were based on panel data for two decades (1970-1989). The main result indicates FDI has a positive overall effect on economic growth, though the magnitude of this effect depends on the stock of human capital available in the host country. The result shows each percentage point increase in the FDI-to-GDP ratio increase the rate of growth of the host economy by 0.8 percentage points. However, the authors emphasized, the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital, i.e. 0.83. The paper indicates inclusion of an interaction term between FDI and human capital improved the overall performance of the regression. It yielded a coefficient that is positive and statistically highly significant. All countries with secondary school attainment of 0.45 years of schooling (for male population above 25 years) would benefit positively from FDI. It indicated strong complementary effects between FDI and human capital on the growth effect of income and that the direct effect of FDI may be quite different for countries with different level of human capital. For countries with very low level of human capital, the direct effect is negative. Moreover, the paper indicates, FDI has the effect of increasing total investment in the economy more than one for one, which suggests the predominance of complementarily effect with domestic firms. In other words, FDI crowds-in domestic investment. Simply put, the paper concluded that FDI contributes to economic growth through capital formation and technology transfers.

With the hypothesis, all FDI's are not beneficial to the host country economy, Alfaro and his colleagues examined how FDI affects growth in primary, manufacturing and service sector and found great variance. Using cross-country data from 1981 - 1999 with sample of 47 developing and developed countries, the finding indicates, in general, FDI has an ambiguous effect (Alfaro, 2003). FDI inflow in the primary sector has a negative effect on economic growth, whereas the FDI inflow to manufacturing sector has a positive effect. And its effect in the service sector was unclear. In a follow up study, Alfaro and his team examined whether countries with better financial system can exploit FDI more efficiently and they found out countries with well-developed financial market gain much from FDI (Alfaro et al., 2004).

A time series study on impact of FDI in China and India shows a positive impact in economic growth. According to the suggested result, growth in India and China is mainly depending on

trade liberalization policy by each country made in 1990s and the consequent upsurges inflow of foreign capital to both these countries. In 1975, China was at equivalence with India in GDP, yet 33% lower in its GDP per capita (\$146 versus \$220). But over the years China developed more rapidly than India and surpassed India in terms of GDP per capita in 1984. The study also investigate the reasons how china has grown more rapidly than India by utilizing FDI (Agrawal and Khan (2011)).

After analyzing the data from 11 countries in East Asia and Latin America, using econometric techniques such as unit root and co integration tests, Ram and Zhang (2002) provides evidence that FDI promotes economic growth in countries with a liberalized trade regime, and a workforce with higher job skills and education. According to Ram and Zhang (2002), FDI provides ready access to the world markets and acts as a conduit for the host country to participate in the globalization process (Ram and Zhang (2002)).

Borensztein, De Gregorio, and Lee used cross-country data for 1970–79 and 1980–89 to study the FDI to growth connection and the possible complementarity between FDI and the host country's human capital. They investigated that the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital and suggested that “FDI contributes to economic growth only when a sufficient absorptive capability of the advanced technologies is available in the host economy.” (Borensztein, De Gregorio and Lee (1998)).

De Mello (1999) used both time series and panel data to estimate the impact of FDI on capital accumulation, output and Total Factor Productivity (TFP) growth in the recipient country economy. The author included a sample of 15 developed and 17 developing countries for the period 1970 to1990. The time series estimations suggest the effect of FDI on growth or on capital accumulation and TFP varies greatly across the countries. The panel data estimation indicates a positive impact of FDI on output growth for developed and developing country sub-samples. The paper concludes FDI contributes to the economic growth of a country through skill acquisition, encouraging adoption of new technology and knowledge transfer.

Njoupouognigni (2010) investigated the long run relationship between FDI, foreign aid and economic growth in SSA countries over the period of 1980 to 2007. The paper used panel data of mean group (MG), pooled mean group estimator (PMG), and dynamic fixed effect (DFE). The result shows a strong positive impact of FDI on economic growth in SSA countries. It indicates, although the effect of FDI on economic growth is positive and statistically significant, human capital remains the key factor that can foster economic growth in SSA countries.

Haile & Assefa (2006) analyzed determinants of FDI in Ethiopia using a time series data (1974-2001) and concluded that growth of real GDP, export orientation and liberalization promote the inflow of FDI while macroeconomic instability and poor infrastructure deter the inflow of FDI. Their paper concluded that, liberalization of the trade and regulatory regimes, stable Macroeconomic and political environment, and major improvements in infrastructure are essential to attract FDI to Ethiopia.

Naudé and Krugell (2003) covered the period 1970-1990 in their cross-country analysis on whether institutions and geography matter as determinants of FDI in Africa. They concluded that geography does not have a direct influence on FDI flows to Africa. They used a number of specifications on policy instruments to demonstrate that neither market seeking nor re-exporting motives for FDI seem to dominate. In critically reviewing the claims of earlier studies on the dominance of economic policies, they concluded that good policies are only significant if they are made by good institutions. As an institutional measure, political stability proved to be a significant determinant of FDI.

Yasin (2005) examines the possible link between Official Development Assistant (ODA) and FDI flow to SSA countries. The study uses panel data from 11 SSA countries for the period 1990-2003. The empirical finding from the study indicated that ODA has positive and significant effect in the flow of FDI to the region. Adding to existing evidence, the result has indicated trade openness, the growth rate in labor force, and the exchange rate of the recipient country's currency have a significant positive effect on FDI flows. On the other hand, other factors like growth rate in GDP per capita, index of political repression, and index of the composite risk of the recipient country are statistically insignificant. Among others, an important policy implication suggested

by the paper includes formulation of policies to enhance the economic and political relationships with donor countries.

Breslin and Samanta (2008) endeavored to establish a relationship between corruption and FDI in 11 African countries, covering the period 1995-2004. No conclusive evidence was found that corruption has an effect on FDI inflows.

Gohou and Soumare (2012) examine the relationship between FDI and poverty reduction (welfare) in Africa using sample of 52 African countries for the period of 1990 to 2007. Unlike most other studies, this paper used FDI net inflows per capita and the United Nation Development Program's Human Development Index as the principal variables. The result indicates FDI has positive and significant effect on poverty reduction in Africa. It pointed out FDI has a greater impact on welfare in poorer countries than it does in wealthier countries. Relatively, while FDI has positive and significant effect on poverty reduction in Central and East Africa, it is not significant in North and Southern Africa. The relation was found to be ambiguous in West Africa.

Asiedu(2003), used panel data for 22 countries in sub-Saharan Africa over the period 1984-2000 to examine the impact of political risk, the institutional framework and government policy on FDI flows. She concluded that macroeconomic stability, efficient institutions, political stability and a good regulatory framework have a positive effect on FDI on the continent. In her study, she also refers to several investor surveys that revealed that, firstly, factors that attract FDI to Africa are different from those that work in other regions, and, secondly, that the region is also structurally different from the rest of the world (Asiedu, 2003:4). Asiedu (2004), again, covering the period 1980-1999, concluded that despite the fact that Africa has reformed its institutions, improved its infrastructure and liberalized its FDI regulatory framework, the initiatives have been less significant than those implemented in other developing countries, making SSA less attractive for FDI inflows.

Hailu (2010) empirically estimates the demand side determinants of the inflow of FDI into Africa using a data set of 45 countries for the period of 1980 to 2007. He concludes that natural resource, labor quality, trade openness, market accession and infrastructure condition have

positive and significant effect on the flow of FDI into Africa. The study further finds government expenditure has a negative effect on the flow of FDI into the region. Similarly, private domestic investment also has negative effect, indicating there is no crowding effect. Other factors such as government fiscal policy have shown association with FDI inflow.

Morisset (as cited by Naudé & Krugell, 2003:5) finds that more FDI flows to countries with larger local markets and/or natural resources. She concludes that aggressive liberalization, modern investment codes and strong economic growth are important prerequisites for increased flows of FDI to Africa.

There are eleven countries in the categories of “least FDI recipient” and these countries share common characteristics that none of them are oil exporting countries and all of them except Swaziland are less developed countries (LDCs) and the size of their economies is very small. For instance, in 2006, the Egypt’s GDP is six times greater than the eleven countries GDP. As per their political environment is concerned 4 out of 11 are suffering from severe military conflict and ethno – linguistic fractionalization.

Chapter Three: Foreign Direct Investment in Ethiopia

3.1 Overview of Foreign direct investment in Ethiopia

The history of endeavors to industrialize Ethiopia dates back to the beginning of the 20th century, when foreign nationals who had settled in urban areas realized Ethiopia's demand for manufactured goods, and began to establish manufacturing firms in Ethiopia (Yohannes,1999:305). However, Befikadu (1983:100) noted that until 1957 there had been no documented strategy for industrialization of Ethiopia except the declaration of the ten-year industrial development programme of 1945, which consisted of only the general guidelines.

Immediately after the over thrown of Emperor Haileseilase in September 1974, a military junta called derg was established from several divisions of the Ethiopian armed forces. The government installed a socialist command economic system where market system was deliberately repressed and socialization of the production and distribution process followed. This led Ethiopia into the Socialism system where discriminatory market economy and private property. At this time land, private large and medium scale enterprises were nationalized. The land reform measure that was undertaken in 1975 was one of the major policy reforms that took place immediately. Land was nationalized and private ownership of land ceased. The government also nationalized and subsequently reorganized private banks, insurance companies, transport companies, and medium and large scale manufacturing enterprises. In this period according to (Astatike and Assefa, 2005), average GDP growth was about 2% and average per capital GDP was negative. The derg did not give any opening for privatization to domestic and foreign investors, so the gap between domestic investments and saving remained wide in the pre-1991 period.

The economic performance of the pre 1991 period was characterized in three phases.

- ✓ The first phase of the regime, 1974-1978, economic performance was poor due to the emerging of new policies and the nationalization measures.
- ✓ The second phase of the regime, 1978-1980, the economy began to recover and the growth rate increased. This period was characterized by stability and benefited from good weather. Agriculture product was increased.

- ✓ The third phase of the regime, 1980-1985, the economy performed badly again. Agricultural and manufacturing sectors were decline because of severe drought that affected almost all regions of the country in between 1984-1985. The Economy continued stagnates.

In this period, environment was not encouraging for private investment in general and FDI in particular. Political instability, insecurity, and the nationalization of major industries made the environment unattractive for private investment. As a result there were no foreign direct investment inflows during that time. (Haile and Assefa, 2006)

In post 1991 Ethiopian Peoples' Revolutionary Democratic Front (EPRDF) thrown the Derg regime and has governed Ethiopia ever since. EPRDF replaced the command system to free market system and undertaken many macroeconomic reforms. The government implemented a series of re-form measures like deregulation, privatization, liberalization of foreign ex-change market, elimination of export tax except for coffee, lowering of maxi-mum import duties from 230% to 60% and Provision of adequate incentives in order to increase private sector participation in the economy which is believed to have an important role in the development process of the national economy. (Haile and Assefa, 2006).

The government has also adopted agriculture-led industrialization program, rural development policy and strategy, industrial development strategy and other sectoral policies and strategies, with a focus on productivity growth on small farms and labor-intensive industrialization with the view that agriculture centered development will bring about a fast economic growth. Economic growth during this period (1992-2015) has improved with an average rate of 8.9%. GDP per capita has also grown by 3% per annum reaching US\$550 in 2012/13 and the rate of inflation declined from 21% in 1992 to less than 10% in March 2014.

In 1991 the regime adopted Structure Adjustment Program (SAP) as per recommendation of the World Bank (WB) and International Monetary Fund (IMF). The government promised to implement a series of policy reform measure in order to remove and change the command economic system with market based economy, to open the economy into the world economy and to encourage the wider participation of the private sectors in the development process of the

national (ADBG (2000)). Under SAP the country become more attractive for FDI and made the domestic investors competitive.

The main objectives of the government were increasing the role of the private sector in the economy and the privatization program was started in February in 1994. Since then, Ethiopian Privatization Agency (EPA) has become the lead agency in carrying out the process of privatization of public enterprises. On the other hand, In recognition of the role of private sector in the economy, the government has revised the investment code five times in the last twenty four year (1992-2013) to make the investment climate attractive. As a result of the implementation of the above mentioned reforms, policies and strategy, agricultural and industrial production, investment and export trade has improved.

Due to the investment friendly environment created through the introduction of investment guarantee schemes and incentives, the inflow of foreign direct investment has been increasing over the last twenty four years but it is still small relative to other African countries. Out of the total investment project licensed between 1992-2012 FDI's shares is about 15.8%. China, India, Sudan, Germany, Italy, Turkey, Saudi Arabia, Yemen, the United Kingdom, Israel, Canada and United States are the major sources of FDI.

3.2 Regulatory and institutional framework of FDI in Ethiopia

In order to improve the investment climate and attract huge FDI inflow the current government has made different legislative and procedural reforms. From 1992 onwards the government has revised the investment proclamation code five times and until recently there are continuous amendments in the investment proclamation including the recent proclamation no. 849/2014 which replace Ethiopian investment Agency (EIA) in to Ethiopian investment commission (EIC) with a view of promoting more FDI and improving the service it renders to investors.

Due to the investment-friendly environment created in the country, the inflow of FDI has been increasing over the last twenty four years. China, India, Sudan, Germany, Italy, Turkey, Saudi Arabia, Yemen, the United Kingdom Israel, Canada and the United States are the major sources of FDI.

3.2.1 The FDI regulatory framework

Since 1992, following the power transition from former socialist and military government to current government, the climate for foreign investment has improved dramatically (UNCTAD 2002). The regulatory regime undertook major reenactments of investment proclamations and made consecutive amendments from the year 1992 to 2015.

The first investment proclamation is no. 15/1992 in May 1992. This is the first investment code in the country and led to the establishment of Ethiopian investment office. The limitation of this proclamation was incentives were restricted to a few sectoral categories mainly agriculture and manufacturing, foreign investors are obliged to deposit 125,000USD in a blocked account.

The second investment proclamation is proclamation no. 37/1996. The changes introduced in here is inclusion of additional sectors such as health, education, tourism, consultancy services in the incentive scheme. The other change is removal of the requirement for foreign investors to deposit 125,000 USD, specification of areas eligible for incentives based on the international standard industrial classification (ISIC) Code. As a result of this foreign investment projects approved increased (more than 300 projects approved).

The third investment proclamation is no.116/1998, in here there is an improvement in the redefinition of domestic investor to include foreign nationals, Ethiopian by birth. In addition, private-government joint investment in defense and telecommunications is allowed and hydro-electric power generation become to open for domestic and foreign investors.

The fourth investment proclamation no.280/2002, take an amendment in reducing the minimum investment capital required for foreign investors from 500,000 USD to 100,000 USD for wholly foreign investor, from 300,000 USD to 60,000 USD for jointly investment with domestic investors and from 100,000 USD to 50,000 USD in the area of consultancy. Other changes include avoiding minimum investment capital requirement for foreign investor re-investing his profits or dividends or exporting at least 75% of his output, allowing foreign investor or foreign national treated as domestic investor the right to own a dwelling house and other immovable property required for his investment, allowing investors to employ duly qualified expatriate experts required for the operation of their business, and more than 400 foreign investment projects approved.

The fifth investment proclamation in 2012, introduced provision for establishment of industrial zones, both state run and private, with favorable investment tax and infrastructure incentives. The amendment also raised the minimum capital requirement to US\$200,000 per project for wholly-owned foreign investments and US\$150,000 for joint investments with domestic investors (or US\$100,000/ US\$50,000 respectively in the area of engineering, architectural, accounting and auditing services, business and management consultancy services, and publishing). A foreign investors investing profits/dividends may not be required to allocate minimum capital.

3.2.2 Institutional framework

The investment proclamation of 2012 and the regulations on investment incentives and investment areas reserved for domestic investors of 2012 are the main legal framework for both foreign and domestic investment in Ethiopia.

As of July 2014 Ethiopian Investment Agency (EIA) was changed to the Ethiopian investment commission (EIC), EIC is an autonomous government institution accountable to the investment board. The prime minister chairs the board. A commissioner who is also member of the board heads the EIC.

The EIC has restructured itself by proclamation No 849/2014 with a view to promoting more FDI and improving the services it renders to investors.

- Promoting the countries investment opportunities and conditions to foreign and domestic investors;
- Issuing investment permits, business licenses and construction permits;
- Notarizing memorandum and articles of association and amendment;
- Issuing commercial registration certificates and effecting renewal, amendment, replacement or cancelation;
- Effecting registration of trade or firm name and amendment, replacement or cancelation;
- Issuing work permit, renewal, replacement, suspension or cancellations;
- Grading first grade construction constructors;

- Registering technology transfer agreements and export-oriented non-equality-based foreign enterprise collaborations with domestic investors;
- Negotiating and, up on government approval, signing by lateral investment promotion and protection treaties with other countries; and
- Advising the government on policy measures needed to create an attractive investment climate for investors.

The EIC also provides additional services on behalf of investors' request to facilitate the acquisition of land and utilities (water, electrical power and telecom services), to process loan and residence permit applications, to get approval of Environmental Impact Assessment (EIA) studies for their investment project as well as for the issuance of tax identification number(TIN).

3.3 Why Ethiopia

As of recent years, foreign direct investments (FDI) inflow has been increasing throughout Africa in general and in some selected countries in particular. The continent's FDI inflow share has grown by 5.6% within the last five years. At a regional level, the sub-Saharan African region also witnessed a booming FDI influx. Foreign direct investments inflows into this particular region have grown by 22% within the previous five years according to the World Bank.

Ethiopia has over 89.4 million peoples and thus potentially one of the largest domestic markets in Africa. By virtue of its membership of the Common Market for Eastern and Southern Africa (COMESA), embracing 19 countries with a population of over 400 million, Ethiopia also enjoys preferential market access to these countries. In addition to this, Ethiopia qualifies for preferential access to European Union market under the EU's Everything-But-Arms (EBA) initiative and to USA markets under the African Growth and Opportunities Act (AGOA). Accordingly, most Ethiopian products can enter into these markets quota and duty free. Furthermore, a broad range of manufactured goods from Ethiopia are entitled to preferential access under the Generalized System of Preference (GSP) of the USA. No quota restrictions are placed on Ethiopian exports falling under 4800 products currently eligible under the GSP.

The Ethiopian economy is based on agriculture, which in 2012/13 contributed approximately 42.9% of the gross domestic product (GDP) and 90% of foreign currency earnings. The country

is among the top performing economies in Sub-Saharan Africa. In the first four years of growth and transformation plan (GTP) implementation, the GDP had grown on average by about 10.1 percent per annum. Out of the total landscape of the country, which covers 1.14 million square kilometers, over 74.3 million hectare of land is arable out of which only about 18 million hectares are currently utilized (45% of the total area).

In addition to the natural potential, doing business in Ethiopia is easier than in other African states. According to a 2013 survey conducted by the World Bank, Ethiopia ranks 7th out of all African countries in terms of the ease of doing business.

Ethiopia concluded investment promotion and protection agreements with 18 countries across the globe. Furthermore, the country signed double taxation avoidance treaties with countries such as China, India, Turkey, the UK, France, Russia, Kuwait, Israel, Egypt and South Africa all to facilitate the inflow of FDI into Ethiopia.

As for the incentives, “the government offers various packages of incentives in terms of tax breaks and import duty exemptions. They also offer service facilitation for investors when they arrive. There is an efficient service in terms of issuing the licenses to start the businesses.

A foreign investor is required to have 200,000 USD of minimum capital in a given project and if it is in partnership with a local investor, the capital required of him is 150,000 USD per project. The minimum entry capital required of a foreign investor investing in areas of architectural, engineering works or related technical consultancy services, technical testing and analysis and publishing work is US\$100,000 where the ownership is fully foreign owned. If it is made jointly with domestic partner(s) the minimum capital required for the foreign investor is US\$50,000. If the investor reinvests his/her profits or dividends, or exports at least 75% of the products, there is no minimum capital requirement. For those foreign companies that increase their production capacity by 50%, the country also entitles them to income tax exemption for up to six solid years especially in sectors which are given a priority by the government: leather, textiles, food industry, pharmaceuticals and agriculture.

Among the major factors that are hindering the country's FDI inflows is poor logistics. However, the country is working very hard to improve the conditions on this front. Among others, Ethiopia Investment Commission has begun to provide different services for incoming investors in order to reduce the cumbersome bureaucracy. In the past, it was a must to visit a number of offices to get different services such as banking, telecom, immigration as well as electricity. To address this problem, Ethiopian Investment Commission set up an office that serves as a 'one stop' investment center.

On the other hand, the government is providing investment incentives for foreign investors. This investment incentives are of three types namely fiscal, non-fiscal and loss carry forward.

Fiscal

The council ministers regulations No.270/2012 specifies the areas of investment eligible for investment incentives.

Customs duty

To encourage private investment and promote the inflow of foreign capital and technology into Ethiopia, the following customs duty exemptions are provided for investors (both domestic and foreign) engaged in eligible new enterprise or expansion projects such as manufacturing, agriculture, agro-industries, generation, transmission and supply of electrical energy, information and communication technology development (ICT) tourism, construction contracting, education and training, star designated hotel, specialized restaurant, architectural and engineering consultancy works, technical testing and analysis, capital goods leasing and importation of LPG and bitumen. (Appendix 2)

100% exemption from the payment of customs duties and other taxes levied on imports is granted to all capital goods, such as plant, machinery and equipment and construction materials;

Spare parts worth up to 15% of the total value of the imported investment capital goods, provided that the goods are also exempt, from the payment of customs duties;

An investor granted with a customs duty exemption will be allowed to import capital goods duty free indefinitely if his investment is in manufacturing and agriculture, and for five years if his investment is in other eligible areas;

An investor entitled to a duty-free privilege buys capital goods or construction materials from local manufacturing industries shall be refunded the customs duty paid for raw materials or components used as inputs for the production of such goods; and

Investment capital goods imported without the payment of custom duties and other taxes levied on imports may be transferred to another investor enjoying similar privileges.

Income Tax Exemption

If an investor engaged in new manufacturing agro-processing; the production of agricultural products; generation and supply of electrical energy; and information and communication technology development he shall be entitled to income tax exemption as specified in (Appendix 3)

Any investor who establishes a new enterprise in Gambella; Benshangul/Gumuz ; Afar (except in areas within 15 kilo meters right and left of the Awash river); Somali; Guji and Borena zones (in oromiya); or South Omo Zones, sheka zone, Dawro zone, Keffa zone, Konta and Basketo special woredas (in south Nations, Nationalities and peoples region) shall be entitled to an income tax deduction of 30% for three consecutive years after the expiry of the income tax exemption period specified in the in Appendix 3.

An investor who expands or upgrades his existing enterprise and increases in volume at least by 50 percent of its attainable production or service rendering capacity or introducing a new production or service rendering line at least by 100 percent of an existing enterprise is entitled to the income tax exemption period specified in the in Appendix 3; and

Exports at least 60 percents his products or services, or supplies the same to an exporter as production of service input will be exempted from the payment of income tax for additional 2 year.

Non-fiscal

The non-fiscal incentives given to all exporters' investors who invest to produce export products will be allowed to import machinery and equipment necessary for their investment projects through suppliers credit.

Loss carry forward

Business enterprises that suffer losses during the income tax exemption period, for half of the tax exemption period. For the purpose of calculating a period of loss incurred carry forward, a half year period shall be considered as a full income tax period. Any loss incurred during income tax exemption period is not allowed to carry forward such loss for more than five income tax period.

3.4 Overall analysis of FDI

Natural resource is the chief determinant of FDI in Africa, particularly in least developed African countries. Nevertheless, the natural resource base of Ethiopia is not attractive for foreign investors, as Ethiopia does not have sufficient stock of minerals and petroleum, the most important natural resources that attract FDI in Africa.

By using the decisive natural resource which is land in proper manner together with the relatively cheap labor force Ethiopia is planning to become member of middle income country in 2025. In doing so, the private sector and FDI are treated as a motor in the industrial development strategy and because of the record Ethiopia achieved for consecutive ten years average economic growth of 9.5% it become to be among the ten countries in the world that grows at a fastest rate.

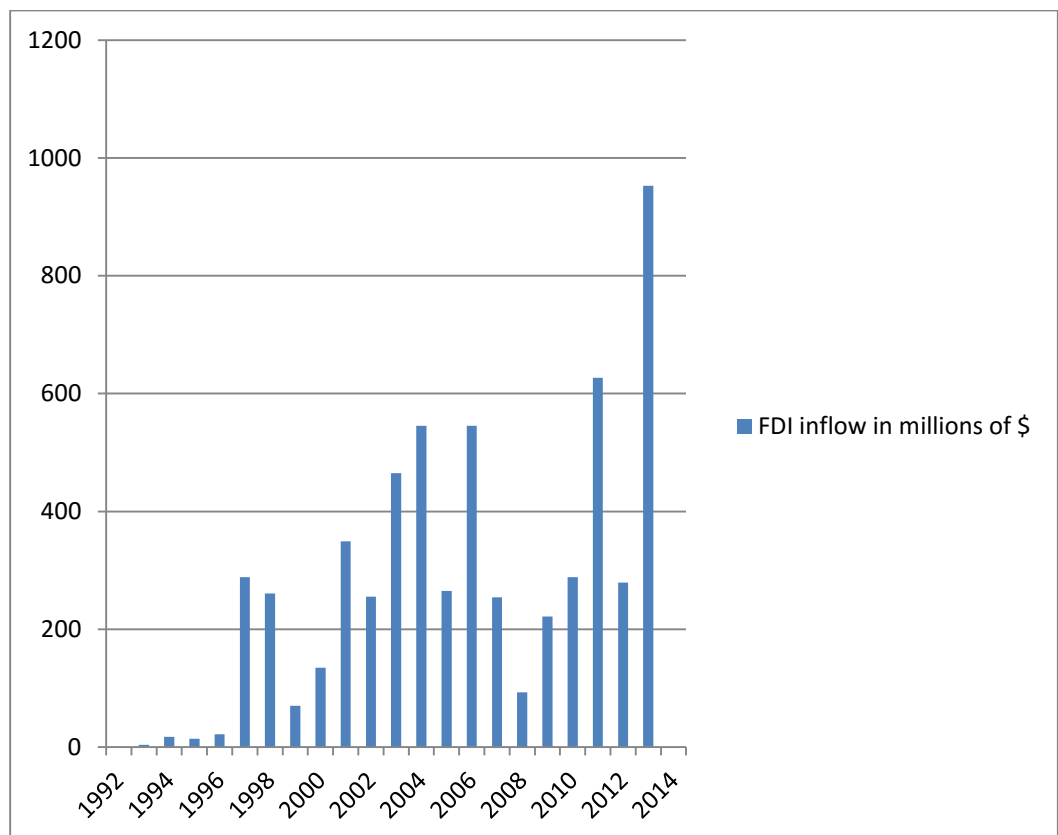
After the overthrow of the Derg regime and the establishment of investment beauro in 1992 until 12 march 2015 a total of 4987 foreign investors established a project in Ethiopia and among these 2117 (42.45%) of the project is in the manufacturing sector with a capital of 74,124,768,850 birr, 2016 (40.43%) in the service sector with a capital of 19,610,532,250 birr and 854 (17.12%) in agriculture and mining sector with capital of 11,205,962,580 birr. In terms of employment creation from the period 22 August 1992 – 12 March 2015 (G.C) a total of 624,310 peoples are employed among them 254,988 are permanent and 369,322 are temporarily employed. The agricultural sector share of employment is higher which is a total of 390,576 both permanent and temporary (62.56% of the total employment), the manufacturing sector follows with a total of 136,848(21.92%) and the service sector 96,886(15.52%).

According to World Bank (2012), FDI is reported on an annual bases i.e., how much new investment was received in the country. In 2012, it typically runs at about 2.3% of the size of the economy measured by its GDP. If a country routinely receives FDI that exceeds 5-6% of GDP each year, then this is a significant source. In addition to that, FDI is expected to facilitate

technology transfer in the industry sector, bring in huge capital and machineries, crates employ opportunities and increase global market share.

FDI inflows to Ethiopia showed an increase in absolute terms from an annual average of \$131.6 million between 1995 and 2000 to \$404.1 million in the year between 2001 and 2006 (figure 3.2) although there are fluctuations due to the political instability in those periods. And also, the percentage share of FDI inflow to GDP rose from the 1995-2000 average of 1.57 to 4. As shown in Figure 3.2, during the Ethio-Eritrea war (1998-2000) the inflow of FDI had fallen to a large extent. Besides, in 2005, during the country's election crisis time, the FDI flows declined to \$265 million from \$545 million in the preceding year of 2004. Recently, the FDI inflow to Ethiopia has been unable to revive for three years in a row, since the global financial crisis hammered the world economy in 2008. FDI inflows have declined continuously from an annual average of 242 million dollar between 1995 and 2004 to 184 million dollars in 2010.

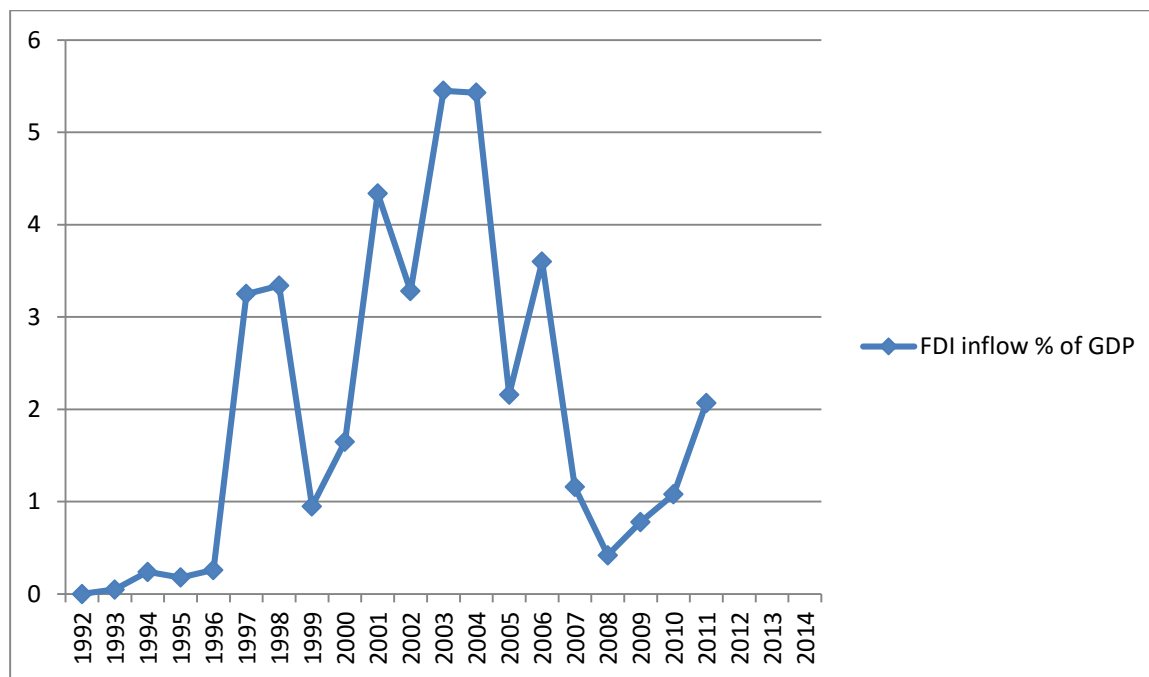
Figure 3.1 : FDI inflows (in million of USD)



Source : Own Computation from the data of world Investment Report

Moreover, despite the improvements in the overall economic contexts, Ethiopia's share of FDI inflows to Africa remains below 2 percent (UNCTAD 2011). Inauspiciously the share of FDI in the Ethiopian gross fixed capital formation has declined from an annual average of 14.8 percent over the 1995 to 2004 to a meager 3.2 percent in 2010. The figure also shows that the percentage share of FDI to GDP remains the least, as it was recorded 5.43 in 2003, which was the highest over the past 20 years.

Figure 3.2 FDI inflow (as % of GDP)



Source : Own Computation from the data of world Investment Report

According to Ernest and Young study (2014), Ethiopia's inflow of investment of FDI since 2003 Ethiopia received 1.6% of Africa's total FDI for new projects and 0.8% of capital invested since 2007. Nearly 43% of capital invested into Ethiopia went into manufacturing activities. From 2007-2012 among 69 projects Food and tobacco (18%), financial services (13%), textiles (10%) , automobiles (7%) and metals (6%) are the major sector beneficiaries of FDI projects. From 2007- 2012 most capital is invested from 4,833 million USD to real state (30%), food and tobacco (16%), coal, oil and natural gas (12%), communication (8%), textile (8%), and other sectors take (28%). Since 2007 Ethiopia's top five investors for FDI capital with a total of 4,833

million USD are UAE (42%), USA (16%), India (12%), Germany (9%), china (8%), and other investors (29%).

In the Ethiopian FDI outlook conducted by oxford Economics and E&Y analysis (2014), in terms of natural resource Ethiopia will be attractive for FDI by 2018 given its gold reserve and the potential for commercial development in natural gas, iron ore, and oil reserves. The labor force also be attractive by 2018 because working population is growing rapidly and cost of labor remain low. Market size will have average FDI attractiveness potential given the small economy in absolute terms but sustained and rapid growth, coupled with a large population makes this a market with significant potential. Infrastructure will be attractive in 2018 because of the rapidly improving infrastructural development with substantial investments being made. Beurocracy and political environment ranked as average FDI attractiveness stage in 2018.

According to African project Access, business monitor international (2014), Ethiopia's active infrastructure projects up to July 2013 ranks 15th in Africa by number of projects and 17th by capital allocation. From these power plants and transmission grids has a project number of six with capital value in (US\$m) 3,827, commercial construction takes 5 projects with (US\$ M) 147, railway and project with (US\$m) 4,368, Airports 2 project with (US\$m) 133, industrial construction 2 projects with (US\$m) 751 and roads and bridges 2 projects with (US\$m) 194.

In general the trend in the past two or three years has been encouraging .for example Ethiopia attracted 953 million \$ in FDI in 2013 which is the highest ever in the history of the country. However, though this is a good achievement the trend must increase rapidly since Ethiopia has the 4th largest GDP in sub-Saharan Africa.

The FDI has started to go in to diversified sectors including manufacturing. The analysis indicated that investors are starting to invest to those sectors where Ethiopia has competitive and comparative advantage. On the other hand, the source of countries that the FDI come is becoming diversified until recently Ethiopia was highly dependent on FDI from the newly emerging economies such as China, Turkey, and India. However, recently there is a growing interest from western developed economies. Example, in 2012 the 2 largest FDI were from UK and Netherland represented by Diageo and Heineken. This show the growing interest in investing in Ethiopia.

According to Zemedeneh (2014), In comparison to the Africa countries the share is small. But Ethiopia's dream is to become one of the major manufacture hubs of Africa but several other Africa countries also aspire to do that .so one way to win in the battle is by making the business operating environment smooth and efficient other task is investing in infrastructure the progress in this aspect is significant progress. For instance, in power supply Ethiopia has the lowest electric tariff in the world which is around 4 US cents per KW/hr. So the investor in manufactory sector will seriously consider this aspect. The other comparative advantage Ethiopia has is Chip and abundant labor. Ethiopia average monthly labor manufacture cost is around 60 to 80 \$ per month where as in China it is as high as 600\$.Hence, this is the reason China industries are setting up industry in Ethiopia.

Generally, the country has been registered two digit growth rates but we still need to do a lot in attracting FDI. There are policies, which need to be reviewed by the government. There are still many sectors of the economy that were closed to foreigners that need to be opened up. Ethiopia discourages foreign investment in sector such as mobile phone network, banking, insurance, electricity among others. These deters not only FDI flows in to the country but also FDI flows to other sector as they are a majored indicators of the government overall openness to foreign investor. On the other hand, the inefficient government beaurocracy, corruption, the terribly slow judicial process in adequate infrastructure facilities, lack of skilled work force and the limited purchasing power of the people are the other factors that hinder FDI flows in to the country.

3.5 Regional distribution of FDI

The flow of FDI to Ethiopia has been unevenly distributed among the various regions. Even though the incentive system encourages foreign investors to invest in the least developed regions (Gambella, Afar, Somali, and Benshangul-Gumuz) of the country by providing special benefits including provision of land free of any charge, their performance in attracting FDI is very poor (EIA,2008 and Tagesse,2001).

As it can be seen at the table3.1, from 22 august 1992- 12 march 2015 G.C most of the FDI is destined in Addis Ababa, the capital. Out of the total 4987 projects (from 1992-2015) 2586 of the projects were situated in Addis Ababa. This is because of the regions better infrastructure, stable political environment and better supply of man power. Oromia region takes the second place and

Amhara third having a total of 1472 projects and 198 projects, respectively. Similarly, in terms of creation of jobs these regions kept their rank in the same position.

Out of the total FDI capital inflow from the period 1992-2015, Addis Ababa, Oromia, Amhara, and Southern nation and nationalities of Ethiopia shared 41.99%, 38.70% , 6.66% and 2.99 % , respectively. These means, these four regions of Ethiopia takes for over 90% of the total capital invested in the country. In terms of employment creation in regional bases again from 22 august 1992- 12 march 2015 (G.C) Addis Ababa takes the lead with 20.88% of the total employment by foreign investors, oromia share is 20.54 % , Amhara with 5.2% and SNNP had 3.87% of the total employment creation from FDI. On the other hand, regions like Harrari, Somali, B.Gumuz , and Afar performance in attracting FDI is very insignificant. For instance, Harrari has only nine projects from 1992-2015.

**Table 3.1 Region of Investment by Investment Statues
Since 22, August 1992 - 12 March 2015(G.C)**

Region	Pre-Implementation	Implementation	Operation				Total	Share of total employment, %	Share of FDI capital %
	No of Proj.	No of Proj.	No of Proj.	.Capital in '000' birr	Perm Empl.	Temp Empl	No of Proj.		
Addis Ababa	805	419	1362	44064101.1	66684	63677	2586	20.88 %	41.99 %
Afar	8	7	10	380187.69	831	1970	25	0.45 %	0.36 %
Amhara	85	55	58	6986977.938	18517	13815	198	5.2 %	6.66 %
B.Gumze	18	11	6	124904.365	233	924	35	0.19 %	0.12%
Dire Dawa	25	18	8	469302.4672	1023	125	51	0.18 %	0.45%
Gambella	20	4	5	1044662.103	349	2350	29	0.43 %	0.99 %
Harari	6	2	1	2500	5	5	9	0.002 %	0.002 %
Multiregional	82	79	166	7255673.804	91294	195728	327	45.97 %	6.91 %
Oromia	583	365	524	40614072.69	65684	62524	1472	20.54 %	38.70 %
SNNPR	68	34	52	3141000.496	4326	19853	154	3.87 %	2.99 %
Somali	16	6	1	15000	2000	2000	23	0.64 %	0.01 %
Tigray	28	20	30	842881.023	4042	6351	78	1.66 %	0.8 %
Grand Total	1744	1020	2223	104941263.7	254988	369322	4987	100 %	100 %

Table: Own computation from the data of EIC, 2015

3.6 Sectoral distribution of FDI

As it can be seen from the table 3.2 in the period from 22 august 1992- 12 march 2015 G.C the manufacturing sector takes the lion share of capital accounting for 70.63% of the whole invested capital in the given time interval, from this manufacturing of basic metals, textiles and other non-metallic mineral products take the leading FDI capital inflow. The service sector is the second largest FDI recipient sector accounting for 18.69% of the total FDI. In hear construction and renting of machinery and equipment take the leading share. The primary sector which refers the agriculture and mining sector accounts to 10.68% of the total inflow of FDI capital in the country. From these growing of crops, vegetables, fruit, horticulture and beverage crops take the lead followed by farming of animals and other mining and quarrying.

**Table 3.2 Total FDI project sector/ sub-sector by Investment statues
since 22, August 1992- 12, March 2015 G.C, EIC(2015)**

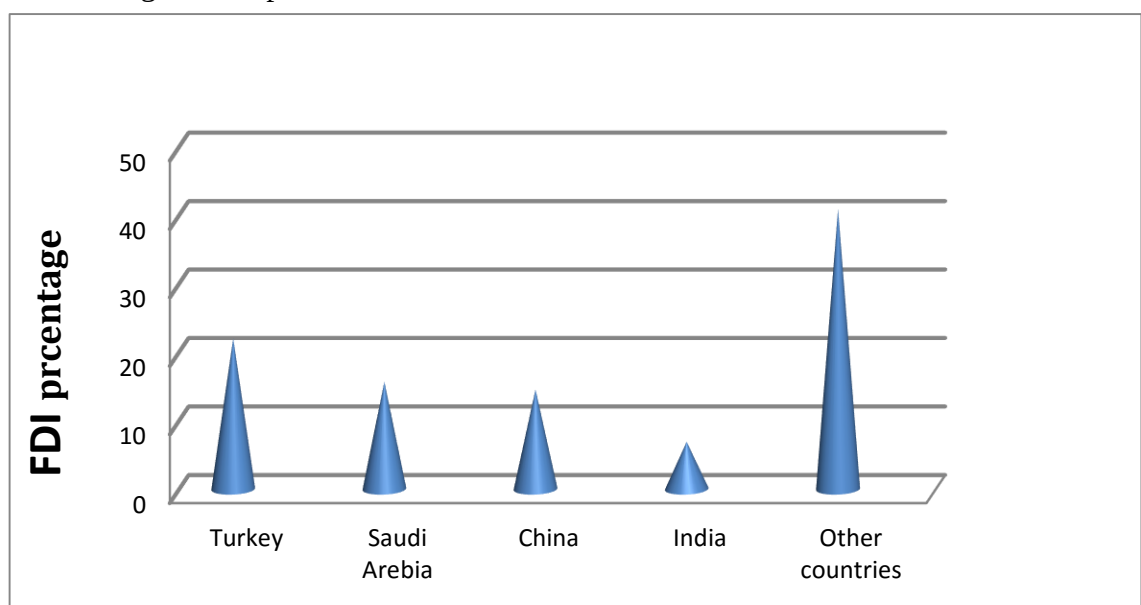
Investment Sector/ Sub- Sector	Pre- Implementation	Implementation	Operation				Total
	No of Proj.	No of Proj.	No of Proj.	.Capital in '000' birr	Perm Empl.	Temp empl.	No. of
Agriculture and Mining	363	216	275	11205962.58	125284	265292	854
Agriculture and animal husbandry service	6	4	1	18500	50	10	11
Farming of animals	120	55	49	624915.4	2993	1667	224
Fishing & fish farms	3	4					7
Forestry, logging and related service activities	5	4	5	128168	2328	2015	14
Growing of crops and related service	222	130	194	9786556.281	118592	259699	546
Mixed farming (Growing of crops &animals)	1	14	8	60566.7	504	1567	23
Other Mining and Quarrying	6	5	18	587256.197	817	334	29
Manufacturing	751	441	925	74124768.85	90945	45903	2117
Basic Metals	10	7	8	15925679.8	409	185	25
Chemicals and Chemical Products	74	37	96	2563444.96	5776	2356	207
Coke, Refined Petroleum Products and	3	1	2	15616	130	50	6
Electrical Machinery and Apparatus n.e.c.	33	19	37	1070067.867	2807	1212	89
M Fabricated Metal Products, Except Machinery	32	33	78	7700989.953	6396	6310	143
Food Products and Beverages	197	116	133	10091151.38	11397	7636	446
Furniture, Manufacturing n.e.c.	35	24	53	400193.817	1991	1552	112
Machinery and Equipment n.e.c.	22	15	35	244619.458	1063	738	72
Medical Precision and optical instrument watches	7	5	9	47126.57	179	565	21
Motor vehicles, trailers and semi- Trailers	20	18	18	263786.986	955	675	56
Office, Accounting and Computing	2	1	3	10075.4	79	15	6
Other Non metallic Mineral Products	54	62	108	11607019.17	11576	7817	224
Other Transport Equipment	1	2	4	4042.23	91	37	7
Paper and Paper Products	16	14	22	536556.879	1171	691	52
Radio Television and Communciation Equip.	5	1	13	94120.768	759	249	19
Rubber and Plastics Products	90	36	118	2238954.066	8731	4905	244
Textiles	71	16	76	15715522.05	23880	4483	163
Tobacco Products	1	1	1	54028	0	0	3
Wearing Apparel, except fur apparel	21	13	49	3292143.17	5767	3319	83
Wood, Products of Wood; except Furniture	11	4	9	239500.805	645	405	24
Publishing, printing and reproduction of media	5	1	6	5490	84	60	12
Recycling	4	4	11	920672.381	574	146	19
Tanning, dressing of leather, & footwear	37	11	36	1083967.141	6485	2497	84
Service	630	363	1023	19610532.25	38759	58127	2016
Computer and Related Activities	43	3	36	385438.4349	891	512	82
Construction	138	72	145	7589708.748	16402	35823	355
Education	38	27	56	483344.194	2719	1261	121
Electricity, Gas, Steam and Hot water supply			1	1000	10	5	1
Health and Social Work	19	36	49	325065.7673	1747	505	104
Hotels and Restaurants	108	61	118	1642087.768	3741	1984	287
Other Business Activities	98	37	278	2989592.226	3360	5905	413
Post and Telecommunication	5		8	54298.631	249	152	13
Real Estate Activities	51	29	14	2125130.599	4784	3152	94
Recreational, Cultural and sporting Activities	1	4	3	68739.6	175	165	8
Renting of Machinery and Equipment	78	52	214	3189306.465	2544	2757	344
Research and Development	1	1	3	58220	171	155	5
Supporting and Auxiliary Transport Activities,	43	25	50	170120.43	657	396	118
Retail Trade & Repair of Personal and househld		1	2	5500	30	3	3
Othes	7	16	48	528479.388	1309	5355	71
Grand Total	1744	1020	2223	104941263.7	254988	369322	4987

3.7 FDI flows by country of origin

According to the data from EIC (2015) and own computation , from the period 1992-2015 it is shown that countries such as Turkey, Saudi Arabia, china, India, USA, France, and Sudan invest huge capital in Ethiopia. Countries share of investment capital from 1992-2015 is Turkey leads by 22% of the total investment capital, Saudi 15.67% , China 14.53%, and India 6.9% are among the leading investors in the time interval which together accounts for about 60% of the total capital invested in Ethiopia.

However, Ernest and Young study (2014), suggest that Ethiopia's top five investors for FDI capital invested since 2007 until 2012 with a total of 4,833 million USD are UAE (42%), USA (16%), India (12%), Germany (9%), China (8%), and other investors (13%). In addition, according to their studies in this time interval among the total of 69 new projects India share is 23%, USA 19%, china 14%, UAE 9%, Germany 6% and other investors takes 29%.

Worldwide, Developed countries are the major source of FDI flows. Nevertheless, more than 60% of FDI flows to Ethiopia are originated from developing economies (Saudi Arabia, India and China). This might indicate that Ethiopia could not provide an attractive business environment for FDI originates from developed economies. However, recent trend shows there is a growing interest from western developed economies. For instance, in 2012 the two largest FDI were from UK and Netherland represented by Diageo and Heineken. This show the growing interest in investing in Ethiopia.



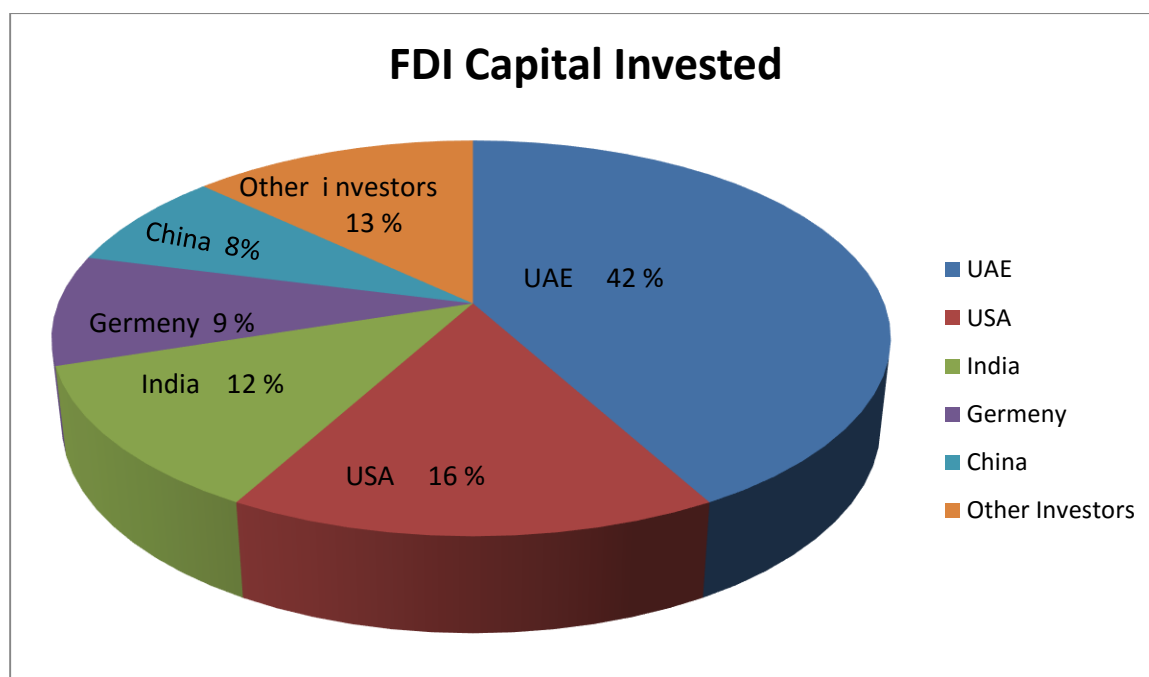


Figure 3.4 Foreign Capital Invested

Source: FDI Markets and Earnest and Young analysis of Ethiopia's top 5 investors for FDI since 2007 (total= US \$4,833M)

3.8 Areas of opportunity

Ethiopia's economy is still young with a vast untapped resources and a range of investment opportunities. The country has comparative advantages in agriculture, agro-processing, leather and leather products and textile and garments. The council of minister regulation No.270/2012 specifies the areas of investment open for foreign investors. (Appendix 1)

The areas, with most promising potential for investment in the country today are agriculture, agro-processing, textile and garment, leather and leather products, sugar, chemical and pharmaceutical products, tourism, mining and hydropower.

Thus, this section briefly describes the main areas of investment opportunities in the country.

3.8.1 Agriculture

Ethiopia has suitable climate and types of soil required for the production of a variety of food crops. The major food crops grown are cereals, pulses and oil seeds. a broad range of fruits and

vegetables and cut flowers are among fast-growing export agro-products . Organic coffee, cotton, tobacco, sugar cane, tea and spices are the main commercial cash crops grown in Ethiopia regional states. The suitable climatic condition varies from the semi-savanna climate of the Gambela plain (2200 m.a.s.l). Coffee grows in the Ethiopia highlands ranging from 1500 to 2100 meters above sea level. The idea soil for the crop is slightly acidic with a PH of 4.5-6.5. It requires annual rainfall ranging from 1500-2500mm with balanced distribution.

The estimate potential areas for the cultivation of various agricultural products in all regional states for the country are presented in the following table.

Table 3.3. Potential areas for farming

No.	Types of Farming	Area(ha)	Region
1	Rice	280,000	SNNP, Oromiya, Amhara, Benshangule Gumez, and Somali
2	Horticulture	763,300	SNNP, Oromiya, Amhara and Dire dawa
3	Coffee	426,000	SNNP, Oromiya, Amhara and Gambella
4	Tea	150,000	SNNP, Oromiya, Amhara and Gambella
5	Cotton	3,000,810	Tigray, SNNP, Oromiya, Amhara , Benshangul gumz, Gambella, Afar and Somali
6	Rubber	200,000	SNNP and Gambella
7	Palm oil	450,000	SNNP , Oromiya and Gambella
TOTAL=5,270,110			

Source: Ministry of Agriculture

Livestock farming, fishery and apiculture

Considerable opportunities exist for investment in rearing water fishery development and the production of honey and beeswax.

The livestock population of Ethiopia is first in Africa and tenth in the world. The sub-sector has large resource, which include 50.88 million cattle, 25.98 million sheep, 21.80 million goats and 42.05 million poultry. Opportunities are also available in ostrich, civet cat and crocodile farming.

Forestry and related activities

Potential activities for private investors in commercial forestry include the production and marketing of gum and incense, large-scale plantation for timber, the establishment of integrated forest-based industries such as pulp, and paper and chipboard.

3.8.2 Manufacturing

The major manufacturing activities are in the production of food, beverages, tobacco, textiles and garments, leather goods, paper, metallic and non-metallic mineral products, cement and chemicals. Under growth and transformation plan (2010/11-2014/15) of the country, production of textile and garments, leather products, cement industry, metal and engineering, chemical, pharmaceuticals and agro-processing and priority areas for investment. Thus there are ample manufacturing opportunities for prospective investors in the following areas:

3.8.3 Tourism

Ethiopia has much to offer to international tourists. It has a unique historical and cultural heritage, natural attraction; it is a possessor of eight world heritage sites, magnificent flora and fauna, important archaeological sites and hospitable people and their cultures diversified a combination which makes it suitable for tourism development. The northern tourist circuit known as the “Historic route” comprises the most important tourist sites in country.

3.8.4 Mining

Ethiopia offers excellent opportunities for mineral prospecting and development. Geological studies have identified a favorable geological environment hosting a wide variety of mineral resources. According to the ministry of mines, Ethiopia has a substantial deposit of gold, tantalum, platinum, nickel, potash and soda ash. Among construction and industrial minerals are marble, granite, limestone, clay, gypsum, gemstone, iron ore, coal, copper, silica, diatomite, etc.

Geothermal energy resource also exists in good quantity. With regard to fossil energy resources, there are significant opportunities for oil and natural gas exploration and development in the major sedimentary basins, namely the Ogden, the Gambella, the Blue Nile and the southern rift valley.

3.8.5 Hydropower

The potential of Ethiopia's renewable and non renewable energy resource is large, with the economically feasible hydro power potential estimated at 45,000 MW. It has large potential for geothermal energy generation. Nine of its major rivers are suitable for hydroelectric power generation.

The private sector can participate in electricity generation from any source and without any capacity limit. Transmission and supply of electrical energy through the integrated national grid system is, however, exclusively reserved for the government. But private investors, both foreign and domestic are allowed to operate an off-grid transmission and distribution of electricity. Moreover, private investors are highly encouraged to engage in generating electricity in bulk and reach an agreement of power purchase with the Ethiopia electric service, a public enterprise, for transmission and supply of electricity through the grid system.

3.8.6 Social services

Social services are other potential areas for FDI in Ethiopia. Potential foreign or local investor can take full advantage of these opportunities through direct investments or joint ventures with Ethiopians.

Health

Health services are areas where investment opportunities exist for foreign investors. Accordingly, opportunities for investment are in the following areas by constructing own building: General hospitals and specialized hospitals.

Health services coverage, which is an indicator of access of the population to health facilities, has increased. However, health service facilities in the country, in general, are not yet adequate as compared to an international standard.

Education

Ethiopia aspires to attract internationally reputable educational institutions, universities and training centers. The following areas are some of the opportunities for foreign investors by constructing own building: Secondary schools; Science and technology colleges/ universities;

Colleges for business and marketing; Schools for medical science; ICT institutions; Vocational trading centers; and Trading centers for hospitality industry.

The government designed quality improvement package and is under the process of implementation with a view to enhancing the quality of education in the country.

Information and communication technology

Investors are also encouraged to invest in lucrative information and communication technology development (ITC) that can deliver great returns.

Construction services

Ethiopia has extensive opportunities in the construction industry, particularly in the construction of roads, residential, commercial and industrial buildings, including low-cost housing .Aware of the crucial role the road sector plays in the development of the national economy, the government has given special attention to the development of the countrys' road network. A wide range of opportunities exist for foreign investors in the following area: General contractor grade 1, building contractor grade 1, road contractor grade 1, water well drilling grade 1 and mineral exploration grade 1.

3.9 Problem faced by foreign investor when they investing in Ethiopia

According to EIC unpublished study on its country diplomacy coalition office on foreign investment recruitment and expansion sectoral committee study (2015) there are a lot of problems in Ethiopia which is faced by the foreign investor and this problems are discussed briefly as follows

3.9.1 In the manufacturing sector

The provision of land

Foreign investor faces huge problem to get a land where they can build a manufacturing industries, commercial farms after they processed their investment licenses, according to the study they will wait from two to three years. The foreign investor faces many beaurocratic challenges on the land issue because there is no single institution that is responsible for the land case different information from different institution to process a single case, there is low

discussion making ability at the office, corruption, etc The government is unable to provide the needed land to foreign investor due to the problems of not paying the compensation fees to the previous owners of the land.

Infrastructural problem

In order to attract a foreign investor it is necessary to fulfill all infrastructural developments like power, roads, telecom and water services. In this respect Ethiopia performance is characterized as low.

Problem of power provision

The problem of power provision is highly seen in the manufacturing sector. This problem can be seen in three ways.

The problem of not having the needed power at the needed speed is the first problem, the institution that is responsible for such task or the Ethiopian Electric power corporation (EEPCO) is filled with bureaucratic working atmosphere and according to the study the investor is forced to wait from 8 month to 1 year after fulfilling the needed procedures.

A problem associated with the issue of transformer is the second case. The investors complain that the transformers that come from abroad are preferable in terms of quality and price but they are forced to buy from the domestic market. In here the two big governmental institutions EEPCO and METEC forward their ideas, that is EEPCO provide transformers that force the investors to use it more than they needed and the transformers manufactured at METEC have quality problem. In response METEC suggested that, in order to execute government policy on import substitution strategy the company is performing its level best but due to rent-seeking behavior on the EEPCO procurement service they are forced to supply huge amount of items in short period of time which is very difficult for the company.

Thirdly, power interruption is highly affecting these manufacturing industries. Many products and manufacturing machineries become to be damaged due to the unexpected power interruption.

Telecom problems

Telecom services like phone, internet and other services are crucial for the current investment activity. The current provision of telecom service is unsatisfactory that many industries are located away from the capital so they face a problem in searching for market and creating a supply chain so it has undesirable impact on the ability of manufacturing and market competition of these industries.

Water problem

The provision of water is very essential for proper manufacturing ability of an industry. However, due to shortage of water provision industries are unable to operate at their level best.

Road problem

Some of the industries are located near to the main roads so the problem of road is minimum. However, most of industries are located away from the main road. Hence, it made a huge problem in operating a given activity.

Problem associated with credit provision

In order to enhance quality and productivity there is a need to acquire new techniques, but some industries become handy due to shortage of capital. When these industries try to borrow money from development bank. The unsatisfactory credit provision and backward service rendering hinders the investors to stay on the same method of production.

Problem associated with investment incentives

Investment incentives are crucial to attract foreign investors. However, there are some problems in provision of this incentives to some industries.

Customs related problems

Most of the investors that produce manufacturing goods import capital products and raw materials from abroad. In addition, partly or all of their products are exported so in such occasion they are required to fulfill customs procedure. The unnecessary bureaucracy and rent seeking

behavior, long time stay of items at the port, over taxation are among the many problems that are faced by the investors.

Problems associated with investment licensing, expansion permit, construction permit, and other services.

Though, there is no huge problem related to investment licensing, expansion permit, construction permit and other services there is an information gap at the investors on the current investment climate of the country such as what is the profitable investment area or sectors, on names, areas, address that are important for the investor in producing a given product, etc.

Other than the above mentioned problems there are problems in working together between Federal and State investment offices, land administration offices and electric power districts. In addition to this the investors also doesn't gave so much attention to their investment condition that they made the land idle after taking for investment, try to take huge land for unnecessary small investment , and so on.

3.9.2 In the Agricultural sector

Land related problems

In order to provide a land the investor passes many bureaucratic paths (Ministry of foreign affairs, EIC, MOT, Ministry of Agriculture, NBE, ERCA, Ministry of water and energy, Ethiopian Development bank, etc.) this made the investors to irritate and to alter their investment decisions. Other problems include land transfer problems, rent seeking problems, lack of coordination between federal and state government on land administration, provision of unnecessary huge lands to investors, absence of well documented agreements between the investor and government bodies on the land administration made check and balance process difficult, absence of conflict prevention method on the areas given to the investors.

Credit service related problems

Investors investing in agricultural related investment get a long term credit service from a single institution known as development bank of Ethiopia. This bank cannot handle the questions of all investors and the branch offices are few. Hence, it is necessary for investors to go away from

their investment area in order to get the credit. The investors are expected to pass many unreachable, and cumbersome conditions and sometimes the credit service is connected with personal benefits which seriously harm the investment climate.

Infrastructural problems

Although there is a lot of infrastructural development undertaken at the present time there is still a problem in the agricultural investment. For instance, road constriction in urban areas are mainly on improving and upgrading the previous roads and on areas that have huge agricultural investment potential like Benshangul, Gambela and southern states road constriction is low. On the other hand, electric and telecom services are also have a lot of problems in the investment area.

Problems in provision of raw materials

For fastest agricultural investment trend the provision of raw material is crucial. However, at current period in the country investor's demand for seeds like cotton, pulse, etc cannot be satisfied. In related to provision of Anti-pest chemicals, fertilizers, and other inputs it is seen that it has problems. Hence, such provisional problems had huge impact on agricultural productivity development.

Export of Agricultural products and problems

Government's intention when providing large agricultural investment land to foreign and private sector is to boost export and agro industry products so as to improve foreign currency generating capacity and creating jobs. However, there is a problem on investors to export their products like in 2012 in order to alleviate the raw material problems of textile industries MOA together with MOI pass an order to NBE not to give permit for cotton producers unless they approve. Though this decision is now cancelled by MOA because MOI does not cancelled the letter still there is a problem in exporting cotton.

Investment incentive problem

The investment incentive provision for agricultural investors does not recognize the amount of land ownership. That is, large and small land owners have the same privilege to import a vehicle.

ERCA also create unnecessary delayance in conducting customs procedure at the port for agriculture machineries and equipments. The duty free right provision service rendering is very passive that investors become disappointed.

Problem of labor force

In some investment area there is no labor force and it requires huge cost to travel from one place to another place and such problems made conducting investment difficult.

Environmental protection problem

In the investment area the residual product of wooden items are not being re-used which made un proper use of natural resource.

Foreign professional recruitment problems

A foreign national can work in Ethiopia for three years with a possibility of extension according to the revised proclamation of work permit provision for foreign nationals in 2010. The problem in here is it does not take in to consideration the time it takes to transform agriculture products in to productivity.

Other problems

There are many problems in investing in agricultural sector that can be mentioned such as ability and institutional organization problems, rent seeking behaviors, mal administration, peace keeping problems are among the most.

3.9.3 Service investment sector

Problems associated with land provision.

Budget problem

In rural areas land is provided at the center areas and at the town expansion area and doing so requires infrastructural cost, compensation cost and other costs. Therefore, in order to prepare such land by the government it lacks the appropriate budget.

Problem in absence of administrative border

Due to lack of knowledge on the administrative border in both town and rural areas there is a problem of preparing a land for foreign investor and in some areas which is given to the investors they become to be in dispute with the local dwellers.

Problem associated with compensation fee and alternative place provision

The government does not provide the necessary compensation for the citizens that own the land previously so when the investors come to invest it faces huge protest from the local people.

Other land provision related problems

Additional problems that can be mentioned related to land provision by government include unbalanced demand and supply of land, town land plan preparation and execution related problem and problems associated with absence of organized land information bank.

Infrastructural problems

The current infrastructural development is trending upward with a very promising pace but still much effort is required to fill the gap in this regard. Electric power provision is the most complaining area for investors together with the mal administration in EEPKO. Other infrastructural activities like telecom, water, road etc are also causing many problems in this sector.

Banking service problems

In the banking sector through government and private sector are working in a good manner the development bank of Ethiopia that give long term credit service to investor have a policy not to give credit to the service sector which led a problem for the investors in this sector.

Ethiopia revenue and customs authority related problems

It is known that the service sector has an investment incentive but due to low attention from the government and bureaucracy from ERCA giving clearances become critical problem in this sector.

Other problems in the service sector

In this sector other than the above mentioned problems there are numerous problems that hinder investors to invest in their full potential such as problem of incentive provision, proper credit provision, gap in policy adoption for service sector are among the many.

Generally from the above discussed issues it can be seen foreign investors are facing numerous problems in every economic sector. Hence, the government should give full attention for each and every problems of the sector and undertake fast improvements in order to enhance the number of foreign investors and to benefit from FDI.

Chapter Four: Data source and methodology

4.1 Data set and source of data

4.1.1 Data Set

The main objective of this paper is to forward economic analysis on foreign direct investment inflow of Ethiopia. There are many empirical and theoretical literatures that suggest ways to enhance the inflow of FDI and among them this paper try to test which variable has high capacity to influence the inflow. In doing so, this paper takes time series data on a number of economic variables that determine the inflow of FDI in Ethiopia.

4.1.2 Source of Data

This paper was entirely depending on secondary data. The major data sources were Ministry of Finance and Economic Development (MoFED), Ethiopia Investment Commission (EIC), Central Statistics Authority (CSA), National Bank of Ethiopia (NBE) and country reports published by the United Nations Conference on Trade and Development (UNCTAD).

4.2 Definitions of variables

According to World Bank development indicator (2003), FDI is defined as the net amount invested or reinvested by non-residents to acquire a lasting interest (10 percent or more of voting stock) in enterprises in which they exercise significant managerial control. There are a number of FDI variables included in World Development Indicators data set: net FDI, BOP in current U.S. \$; net FDI inflows as percent of gross capital formation; net FDI inflows BOP in current U.S \$ and net FDI inflows as percent of GDP. IN line with the approach used in the FDI literature, the dependent variable used in this study is the net foreign direct investment inflows as a percentage of GDP.

The choice of independent variables is constrained by data availability, as is mostly the case with time-series data in developing countries. For example, time-series data on some of the factors such as tariff rates, trade taxes, real effective exchange rate, real wages, corruption index and political stability index that are used in some studies of this nature are not readily available for

Ethiopia over the (entire) study period. Notwithstanding this constraint, this study uses the following variables that are commonly used in studies of FDI.

Market Size: the market size hypothesis states that multinational firms are attracted to a larger market in order to utilize resources efficiently and exploit economies of scale (Chakrabarti, 2001). Market size has been represented by real per capita GDP and growth rate of real GDP (as market growth potential). RealGDP is used in the regression as measures of market size. The nominal values of GDP were taken and then converted into real value using GDP deflator. According to the literature we expect real GDP will have a positive relationship with the level of FDI as countries with expanding market size are expected to attract higher levels of FDI.

Macroeconomic stability: there is a widespread perception that macroeconomic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitably (Balasubramanyam, 2001). Inflation rate is used as proxy variables for macroeconomic stability. Low inflation rate is expected to have a positive impact on FDI.

Trade Openness: The ease of capital movement to and out of the country and the trade openness of the country affect the flow of FDI. The standard way of thinking is that countries with capital control and restrictive trade policies discourage business, compared with countries with liberal policies. Openness of a country could be expressed in different ways. Among others, trade restrictions, tariffs, and foreign exchange control law could be mentioned. Since the data for variables that measure capital account openness are not readily available, this study has used the ratio of trade to GDP (import plus export to GDP). As openness of an economy is believed to foster the level of FDI, the more open an economy is, the more likely it would grow and attract FDI. Thus, we expect a positive relationship between openness and level of FDI.

Infrastructure development: Infrastructure development is one of the well-recognized factors for attracting FDI. The main argument is a well-established infrastructure such as roads, airport, electricity, water supply, telephones, and internet access will reduce the cost of doing business and help maximize the rate of return. It is suggested that the availability of a good quality infrastructure subsidizes the cost of total investment and increasing efficiency of production and

marketing. Studies have indicated the presence of an advanced infrastructure like roads, ports, railways, telecommunications system, and other public institutions are indications that the host country has the platform to manage inflow of FDI. Taking in to account Gross Fixed Capital Formation (GFCF) has been included to proxy infrastructure development. It is expected to be positively correlated with FDI.

Human Capital: Large, efficient, and educated population is a requirement to attract FDI. Evidence gathered from the literature reviews has shown that the presence of skilled human capital as a pull factor for foreign MNCs. It is often said that countries with a large supply of cheap but skilled human capital attract more FDI and thus progress economically. The conventional wisdom has it that a more educated labor force can learn and adapt to new technology faster, and is generally more productive. Especially in this age of high tech, it is suggested countries that try to attract FDI should have the required human capita to run the high-tech industries. In this study expenditure on education is used as a proxy for human capital. As more developed human capital attracts more FDI, we expect a positive relationship between FDI and human capital.

4.3 model specification

The general form of the model estimate has the following form:

$$FDI = f(RGDP, GFCF, HC, OPP, INF, DS) \dots \dots \dots (4.1)$$

Where, RGDPG= Real Gross Domestic Product

GFCF= Gross Fixed Capital Formation

HC= Human Capital (proxy by secondary school enrollment)

OPP= Openness to trade (used as proxy to measure financial restrictions)

INF= Inflation rate based on CPI

DS= Debt Servicing

In all of the models, all variables except the Growth rate of Real Gross Domestic Product (RGDPG), and inflation rate, all other variables are first converted in to natural log and are denoted by $\ln FDI$, $\ln RGDP$, $\ln GFCF$, $\ln HC$, $\ln OPP$, $\ln INF$, and $\ln DS$.

The study covers the period 1974-2014 and the variables discussed have constituted time series information. My variable of interest, FDI can be influenced by the list of the remaining variables. Hence, the model employed can be given by

$$\ln FDI_t = \beta_0 + \beta_1(\ln RGDP_t) + \beta_2(\ln GFCF_t) + \beta_3(\ln HC_t) + \beta_4(\ln OPP_t) + \beta_5(\ln INF_t) + \beta_6(\ln DS_t) + U_t \dots \dots \dots (4.2)$$

The coefficients β_0 , β_1 , β_2 , β_3 , β_4 , β_5 , β_6 , β_7 , and β_8 are the parameters of the econometric model, and they describe the directions and strengths of the relationship between FDI and the factors that used to determine FDI in the model (called Explanatory Variables). For instance, β_1 is the major coefficient of interest that tells the percentage response in FDI growth for a percentage change in RGDPG (% FDI) and U is error term.

4.4 Estimation technique

4.4.1 Stationarity Test

In the analysis of time series data, the notion of stationarity plays an important role. Proper estimation of a time series model requires a stationary data. Conducting time series analysis on non-stationary data will results what is called “spurious” or “nonsense” regression, i.e., a situation where the estimated regression has a high R^2 and significant t- values without any economic relationship between the variables. According to Granger and Newbold (1974), Estimation of parameters and hypothesis testing using time series data requires an investigation of the data generating process of the variable under consideration. This investigation helps to avoid estimating a spurious correlation between variables in a regression, where and what actually exist is correlated time trend rather than a meaningful economic relationship. A combination of variables that contain a time trend or are non-stationarity may lead to spurious correlation. Hence, to avoid the problem of spurious correlation, inappropriate model specification and misleading results due to the presence of non-stationary variables in the regression model, the time series properties of the variables used in the model are investigated.

Stationary on the other hand, implies that the distribution of a process remains unchanged when shifted in time by an arbitrary value. More formally, a stochastic process is said to be weakly stationary if its mean and variance are constant over time and the value of the covariance between the two time periods depends only on the distance or gap between the two time periods and not the actual time at which the covariance is computed (Enders, 1995; and Gujarati, 2003). And according to Gujarati (2003), a time series is strictly stationary if all of the moments of its probability distribution are invariant over time. However, the normal stochastic process is fully specified by its two moments, the mean and the variance.

The stationarity of each series is verified with the standard Augmented Dickey-Fuller (ADF) and the Phillips-Perron (PP) tests. A time series is said to be integrated of order d , denoted $I(d)$, if it becomes stationary after being differenced a minimum of d times (Dickey and Fuller, 1979, and 1981). The stationarity test results may be sensitive to whether a constant and/or a time trend are/is included in the regression. The appropriateness of including a constant and/or a trend is checked by formally testing whether they are statistically significant in the respective stationarity test regression equations.

4.4.2 Testing for unit roots

A test of stationarity (or non stationarity) that has been become popular over the past several years is the unit root test. There are several ways of testing for the presence of a unit root: the Dickey-Fuller (DF) test, the Augmented Dickey-Fuller (ADF) test and the Phillips-Peron test. This study employs the ADF and Phillips-Peron tests to determine the existence of a unit root. A commonly applied formal test for the existence of a unit root in data is the Dickey-Fuller (DF) test and its simple extension, the Augmented Dickey Fuller (ADF) tests (Harris, 1995). The augmentation is the addition of lagged values (p) of first differences of the dependent variable as additional regressors that are required to account for the possible occurrence of autocorrelation.

4.4.3 Econometric Method

4.4.3.1 Vector Autoregressive (VAR) Modeling and Co integration analysis

According to Wooldridge (2003) , the notion of co-integration, which was given a formal treatment in Engle and Granger (1987), makes regression involving non stationary time series or what is called an integrated of order one, $I(1)$ variables potentially meaningful. It is a notion that a linear combination of two series, each of which is an integrated of order one; $I(1)$ is integrated of order zero, i.e. stationary. We are concerned about the concept of co-integration because making a variable stationary by differencing only gives the short run dynamics while we are also interested in knowing the long run relationship. Economically speaking, two variables will be co-integrated if they have long run relationships between them. In CVAR models the test for co-integration is vital because if there is no co-integration relationship between the variables under consideration then there is no point in estimating VECM.

A simple approach to testing for the existence of co intergration is the Engle-Granger (1987) two-step approach. Though this procedure is easily implemented, it has several important limitations. One crucial limitation of the method is that it has no systematic procedure to identify the existence of multiple co-integrating vectors. An alternative approach which addresses the drawbacks of the two step Engle-Granger approach was proposed by Johansen (1988), who developed the maximum likelihood estimation procedure that also allows one to tests for the number of co-integrating relationship. The Johansen (1988) maximum likelihood estimators overcome problems associated with the use of two step estimators. Most importantly it can detect the presence of multiple co integrating vectors. Moreover, the test allows testing restricted versions of the co-integrating vector(s) and the speed of adjustment parameters (Enders, 1995).

The procedure used for co-integration testing and estimation of the VAR in this study follows the methodology developed and used by Johansen (1988, 1991), and Johansen and Juselius (1990). This method is preferred to the single equation based Engel-Granger two step procedure due to the following reasons. The Johansen (1988) procedure allows testing for the presence of more than one co-integration vector. Moreover, it permits to estimate the model without priority restricting the variables as endogenous and exogenous. It is used to determine how each endogenous variable responds over time to a shock in that variable and in every other endogenous variable.

Johansen (1988, 1991) has shown that the test for co-integration can be expressed as a test of reduced rank of a regression coefficient matrix. The coefficient matrix can be estimated consistently using linear regression techniques and the test statistic can be computed from the solution to an eigen value problem. Moreover, linear restrictions on the co-integrating parameters can be tested by computing the shortcomings of the Engle-Granger method likelihood ratio test statistic which follows a χ^2 distribution (Walls, 1993).

Economic variables have short run behavior that can be captured through dynamic modeling. If there is long run relationship among the variables, an error correction model can be formulated that portray both the dynamic and long run interaction between the variables. In the previous discussion, we show that if two variables that are non-stationary in levels have a stationary linear combination then the two variables are co-integrated. Co-integration means the presence of error correcting representation. That is, any deviation from the equilibrium point will revert back to its long run path. Therefore, an ECM depicts both the short run and long run behavior of a system. Engle and Granger (1987) (cited in Alogoskoufis and Smith, 1995) defined ECM as "a particular representation of a vector auto-regression appropriate for co-integrated results." This means if there exists long run relationship (i.e., cointegration among the variables).

In this study, different post-estimation diagnostic tests were performed to guarantee that the residuals from the model have a Gaussian distribution. Such as: residual vector serial correlation LM test, residual vector normality test, and residual vector heteroscedasticity test. Furthermore, the diagnostic test results used as indicators of the validity of employing impulse-response functions and variance-decomposition analyses. Similarly, the study also employed impulse response function to traces the effect of a one standard deviation shock to one of the innovations on current and future values of the endogenous variables. A shock to the i -th variable directly affects the i -th variable, and is also transmitted to all of the endogenous variables through the dynamic structure of the VAR (Stock and Watson, 2001). Thus, for each variable from each equation, a unit shock to the error is analyzed in order to determine the effects upon the VAR system over time. In the case of this study, the impulse response function will be able to reveal the sign, size and persistence of shocks from the exchange rate and import prices and consumer prices. On the other hand, the study also employs variance decomposition to examine the degree to which one variable influences the other (Shin et al, 2006).

Chapter Five : Empirical Results and Discussion

This portion of the study analyzes the relationship between Foreign Direct Investment (FDI) and its determinants using annual time series data. Prior to direct estimation of the model, it is advisable first to conduct the unit root test to check whether the time-series is stationary or not and after identifying the optimal lag length and VAR lag exclusion wald test, the presence of the co-integrating vectors is tested using the Johansen cointegration method. Further the granger causality test is employed to find the direction of causality between Foreign Direct Investment (FDI) and its determinants. The long-run and short-run relationship is also identified followed by the post diagnostic test.

5.1 Unit Root Tests

In macro-level data analysis, unit root test is a common practice to accommodate non-stationarity. If this behavior of macro-variables is left uncorrected, it would lead to the problem of spurious regression when there is a need to model relationships among variables. That is, they may indicate a relationship between variables which does not exist. In order to obtain a consistent and reliable result, we must transform the non stationary data into stationary data by differencing. In contrast to the non-stationary process that has a variable variance and a mean that does not remain near, or returns to a long-run mean over time, the stationary process reverts around a constant long-term mean and has a constant variance independent of time. Before making a formal test for stationarity, it is advisable to conduct a graphical sketch of each of the variables over time. This helps to informally identify the presence of any trending behavior in the variables in question over time. The plots of the variables are found in appendix....

Formal testing for stationarity and the order of integration of each variable are primarily undertaken using different methods (mostly ADF and Phillips-Perron). The tests with the ADF and PP methods are performed with different trend assumptions (only intercept, both linear trend and intercept, and no intercept and no trend). Performing the tests under all three alternatives will identify whether only the intercept or both the trend and intercept are significant.

In this study, as it can be seen from table 5.1 the test for stationarity using ADF test shows that only an intercept must be included in all variables such as ($\ln GFCF$, $\ln FDI$, $\ln OP$, $\ln HC$, $\ln INF$, $\ln GDP$,) in testing for stationarity, while variables such as $\ln DS$, are tested without the trend and

intercept. A linear trend is found to be insignificant in all of the test equations. The result shows that all of the variables included in the model are integrated of order 1, *i.e.*, I (1).

Table 5.1 Augmented Dickey-Fuller Stationarity Test Result

	Variables	Test statistics under different assumptions			Order of Integration
		Intercept	Trend and Intercept	No Trend , No Intercept	
1.	lnFDI	(-0.270926)	(-3.938645)	(0.574042)	I(1)
	D(lnFDI)	(-6.565729)*	(-6.679936)	(-6.492681)	
2.	lnOP	(-1.346091)	(-2.104574)	(-1.052708)	I(1)
	D(lnOP)	(-6.404535)*	(-6.316295)	(-6.388806)	
3.	lnINF	(0.476286)	(-1.975434)	(5.577718)	I(1)
	D(lnINF)	(-4.202155)*	(-4.225741)	(-1.276625)	
4.	lnHC	(-0.705530)	(-2.501657)	(-1.779301)	I(1)
	D(lnHC)	(-4.308941)*	(-4.180550)	(-3.333515)	
6.	lnDS	(-1.012821)	(-1.580071)	(1.207119)	I(1)
	D(lnDS)	(-6.613882)	(-6.543991)	(-6.350941)*	
7.	lnGFCF	(2.002600)	(-1.131138)	(5.139184)	I(1)
	D(lnGFCF)	(-6.211661)*	(-6.133600)	(-1.743889)	
8.	lnGDP	(4.726178)	(1.146390)	(3.280029)	I(1)
	D(lnGDP)	(- 4.699492)*	(- 3.457501)	(-0.985426)	

Source: Own Computation Using EVIEWS 8 and note that: ‘D’ before each variable represents “first difference”. Note: *= at 1%, ** =at 5% and *** = at 10% significance level

As can be seen from table 5.1 the tests show that all the variables are not stationary in their levels at 5% level of significance. Hence, we take the first difference of the variables and see if they become stationary. We can also determine the order of integration of the variables in the process. Looking at the results of ADF test conducted on the first difference of the variables, the null hypothesis of unit root is strongly rejected. Hence we can conclude that all the variables become stationary at their first difference and hence are I (1). The Phillips-Perron test (see appendix 2) gives a result that is consistent with and supports the results of the ADF. Therefore, both the

ADF and PP results are consistent with each other and demonstrate that all variables included in the model are integrated of order 1, *i.e.*, $I(1)$.

5.2 Econometric Analysis

5.2.1 Results for Co-integration Test and Vector Error Correction Model

5.2.1.1 Co-Integration Test Result

Lag Order Selection for Endogenous Variables

The Johansen co-integration test result is very sensitive to the number of lags included for the endogenous variables in the estimation of the VAR. This necessitates the determination of an optimal lag order prior to the test of co-integration. The optimal lag order is determined with the sequential modified Likelihood Ratio test statistics [LR], the Final Prediction Error [FPE], the Akaike Information Criterion [AIC], the Schwarz Information Criterion [SC], and the Hannan-Quinn Information Criterion [HQ]). As shown in Table 5.2, LR, FPE, AIC, SC and HQ suggest an optimal lag of four, each test at a 5% level of significance.

Table 5.2 VAR Lag Order Selection Criteria

Lag	Log-likelihood	LR	FPE	AIC	AIC	HQ
0	-93.61356	NA	5.43e-07	5.438571	5.743339	5.546016
1	142.9293	370.7969	2.25e-11	-4.698881	0.374134	-3.839320
2	182.6517	47.23747	5.01e-11	-4.197390	-2.260735*	-2.585713
3	284.0469	82.21232*	7.38e-12*	-7.029562*	-0.324661	-4.665770*

* indicates lag order selected by the criterion

Lag exclusion test

A number of the lags (of some endogenous variables) that are chosen as optimal may have insignificant contributions to movements in FDI, individually as well as jointly. Therefore, whether the third lag (chosen as optimal) of all variables are individually and jointly important and should be included in the testing for co-integration and estimation of the VECM should be evaluated. This approach was taken with the Wald form of the lag-exclusion test (which is asymptotically chi-square distributed). Table 5.3 shows that the third and second lags of all of

the endogenous variables are significant jointly. This suggests that the use of this lags of the variables in the model is valid.

Table 5.3 VAR Lag Exclusion Wald Tests

	LNFDI	LNGFCF	LNINF	LNNGDP	LNODS	LNOP	LNHC	Joint
Lag1	13.15724 [0.068369]	7.646702 [0.364775]	3.53981 [0.830991]	9.754023 [0.202947]	7.342388 [0.394122]	8.619368 [0.281151]	1.408423 [0.985312]	84.76335 [0.001149]
Lag2	6.647647 [0.466465]	23.61815 [0.001329]	46.90677 [5.82e-08]	37.18251 [4.33e-06]	13.17098 [0.068050]	15.50224 [0.030074]	16.24183 [0.022997]	200.4557 [0.000000]
Lag3	18.719 [0.009115]	10.7459 [0.150093]	21.23468 [0.003438]	14.28168 [0.046392]	12.89304 [0.074758]	36.24958 [6.50e-06]	3.398236 [0.845884]	198.4776 [0.000000]

Note: Numbers in [] are p-values

Though the lag order selection criterion suggests 3 lags to be included in the model, we were forced to use only two lags due to insufficient number of observations. The lag exclusion test also approves the inclusion of two lags in the model because it shows that the first and second lags of all the variables are jointly significant at 5% significance level so this study selects 2 lags as it appears to be the most significant as compared to lag1.

The Johansen Co-integration Test Result

The ADF and Philips – perron stationarity test results presented previously indicate that all the variables are not level stationary. This suggests that regression based on the level variables may produce an unreliable outcome. However, the Granger representation theorem states that it is possible for non-stationary variables to produce a stationary relationship if they are co-integrated. This would imply that there is a meaningful long run relationship among the variables. Thus, the presence and the number of such co-integrating relationships are checked using the trace and the maximum- eigen value methods.

The Johansen method of co-integration rank test result is very much dependent on the deterministic trend assumption in the underlying VAR structure, in addition to the number of lags of the endogenous variables. Hence, since the results may differ with the alternatives, a decision must be made as to which one to choose for the purpose of further analysis. So referring to the guide provided by EViews 8 (User's Guide > Advanced Multivariate Analysis > Cointegration Testing > Johansen Cointegration Test), case 2 is chosen as appropriate for this study because none of the series appear to exhibit a linear trend; case 2 assumes an intercept (no trend) in the co-integration equation . Hence, the unrestricted Johansen Cointegration Test at case 2 is presented as follows.

Table 5.4 Johansen Cointegration Test Results

Test	Null Hypothesis	Alternative Hypothesis	Eigen value	Cointegration test statistics	Critical value (5%)
Trace statistic	$H_0: r \leq 0$	$H_A: r > 0$	0.942558	286.2012*	134.6780
	$H_0: r \leq 1$	$H_A: r > 1$	0.780273	180.4927*	103.8473
	$H_0: r \leq 2$	$H_A: r > 2$	0.703213	124.4239*	76.97277
	$H_0: r \leq 3$	$H_A: r > 3$	0.576643	79.47852*	54.07904
	$H_0: r \leq 4$	$H_A: r > 4$	0.442363	47.67556*	35.19275
	$H_0: r \leq 5$	$H_A: r > 5$	0.361608	26.06581*	20.26184
	$H_0: r \leq 6$	$H_A: r > 6$	0.225609	9.460109*	9.164546
Maximal Eigenvalue	$H_0: r = 0$	$H_A: r = 1$	0.942558	105.7085*	47.07897
	$H_0: r = 1$	$H_A: r = 2$	0.780273	56.06875*	40.95680
	$H_0: r = 2$	$H_A: r = 3$	0.703213	44.94543*	34.80587
	$H_0: r = 3$	$H_A: r = 4$	0.576643	31.80296*	28.58808
	$H_0: r = 4$	$H_A: r = 5$	0.442363	21.60975	22.29962
	$H_0: r = 5$	$H_A: r = 6$	0.361608	16.60570*	15.89210
	$H_0: r = 6$	$H_A: r = 7$	0.225609	9.460109*	9.164546

Note: * denotes rejection of null hypothesis at 5 percent level.

As shown in the above table the trace test suggests that there are about seven co-integrating equations while the maximum Eigen value test indicates that there are there are about four co-integrating equations at 5% level of significance. This is a proof for the long-run relationship among Foreign Direct Investment (FDI), Openness (OP), Gross Domestic Product (GDP), inflation (INF), Gross Fixed Capital Formation (GFCF), Debt servicing (DS), and Human Capital (HC). This co-integration rank test also led for the application of Vector Auto Regressive (VAR) model and the johansen method instead of the single equation based equation-based Engle-Granger two-step procedure.

Granger Causality/Block Exogeneity Test

The Granger causality test was performed to examine the presence of bidirectional causality as described by Granger. Table 5.4 shows the existence of causality between FDI which is the dependent variable and the independent variables such as Gross Fixed Capital Formation, inflation, openness, human capital, debt servicing, and gross domestic product. In this test Gross Fixed Capital Formation Granger- causes Foreign direct investment and Foreign direct investment also Granger- causes Gross Fixed Capital Formation. Where as , on the other variables only the explanatory variable Granger- causes Foreign direct investment but Foreign direct investment does not Granger- causes inflation , Gross Domestic Product, debt servicing, openness and human capital.

Table 5.5 Granger Causality

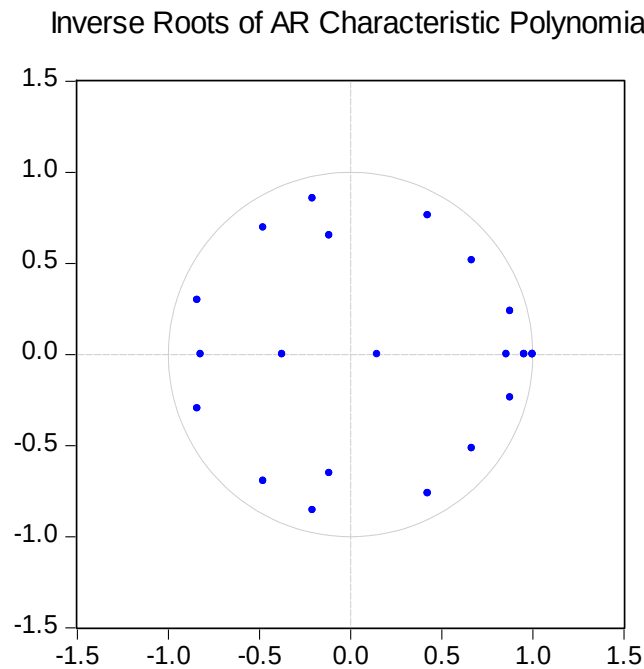
Null Hypothesis:	Obs	F-Statistic	Prob.
LNGFCF does not Granger Cause LNFDI	38	6.042397	0.00580
LNFDI does not Granger Cause LNGFCF		3.73821	0.03440
LNINF does not Granger Cause LNFDI	38	10.15570	0.00036
LNFDI does not Granger Cause LNINF		1.25275	0.29895
LNNGDP does not Granger Cause LNFDI	38	5.61440	0.00796
LNFDI does not Granger Cause LNNGDP		0.43083	0.65356
LNODS does not Granger Cause LNFDI	38	3.19300	0.05399
LNFDI does not Granger Cause LNODS		0.13942	0.87036
LNOP does not Granger Cause LNFDI	38	5.530167	0.00848
LNFDI does not Granger Cause LNOP		1.189340	0.31713
LSENROLL does not Granger Cause LNFDI	38	3.67593	0.03620
LNFDI does not Granger Cause LSENROLL		1.90760	0.16444

Diagnostic Test

The stability of the VAR model and the results of the post estimation diagnostics could affect the validity and robustness of the results of the impulse response functions and other diagnostics, and thus should be tested prior to further analysis. As a result, first we have tested for VAR stability, and the result in the figure presented below shows that all roots of characteristic

polynomial lie inside the unit circle which suggests that the VAR is stable. Stability of the system confirms that impulse response functions can be used in our analysis.

Figure 5.1 Roots of AR Characteristic Polynomial.



Source: Own computation using EVIEWS 8

5.2.1.2. Vector Error Correction Model (VECM)

In the previous analysis, it was found that the data has seven co-integrating relationships based on the Johansen co-integration test. However, based on Granger Causality / Block Exogeneity Test we can determine the endogenous and exogenous variables at 5% level of significance so that we can amend the number of co-integrating equations by selecting only the endogenous variables from the result. Hence, VECM is performed by choosing the optimal lag that is chosen based on the information criterion seen in the previous section and by using the result of the Johansen co-integration test. The VECM consists of two parts: the matrix of long-run co-integrating coefficients that is used to derive the long-run co-integrating relationship, and the short-run coefficients which is for the short-run analysis.

Long-run Relationship

Table 5.6 Estimated Long Run Model, Dependent variable: **lnFDI**

Variable	lnGFCF	lnINF	lnGDP	lnDS	lnOPPEN	lnHC	Constant
Coefficient	-3.32512	3.06773	-4.3674	-0.94813	-2.8432	-1.4353	-68.08551
St. error	[1.37278]	[1.70333]	[1.75970]	[0.39052]	[1.19858]	[0.63020]	[8.22382]
t-stat	-2.42217	1.801019	-2.4819	-2.42786	-2.37214	-2.27753	-8.279061

To understand and interpret the above result more easily we can rewrite the long run equilibrium relationship normalized on lnFDI as;

$$\ln \text{FDI} = 68.08551 + 3.32512 \ln \text{GFCF} - 3.06773 \ln \text{INF} + 4.3674 \ln \text{GDP} + 0.94813 \ln \text{DS} + 2.8432 \ln \text{OPPEN} + 1.4353 \ln \text{HC} \dots\dots\dots(5.1)$$

The above equation shows that, in the long run lnFDI can be explained by Gross Fixed Capital Formation, inflation, Gross Domestic Product, Debt servicing, Openness and Human Capital. The long run impact of GFCF on FDI is found to be positive and significant. That is GFCF which constitute all kinds of infrastructure development is positively related with FDI given that a good infrastructural facilities in Ethiopia have a significant effect on FDI in the long run since surplus of proper infrastructure decreases the cost of doing business.

Though we expect negative effect the inflation rate is found statistically significant and has positive relationship, respectively. Results indicate that inflation rate is highly significant which attracts the foreign investors to invest in Ethiopia. Debt servicing also have positive and significant relation with FDI in the long run. More debt servicing is a result of more debt and excessive foreign debt is one source of instability and uncertainty in macroeconomic environment of underdeveloped countries and hence this foreign debt is likely to affect adversely the inflow of FDI. Excessive foreign debt may signal imminent fiscal crises and foreshadow the future economic situation in a country. However, countries like Ethiopia may borrow in order to invest in productive sectors such as infrastructure which could have improved the overall economy of the country and thus attract more FDI.

We find that openness has a positive and significant impact on FDI in the long run. This is expected and is consistent with previous results such as Chakrabarti's (2001) finds openness to trade, measured by exports plus imports to GDP, being positively correlated with FDI. Morisset

(2000) finds a positive and significant correlation between trade openness and the investment. Similarly, there is positive and significant relationship between FDI and GDP in the long run. This result strongly support the study of Burcu Turkean , et al.(2008), that suggest economic growth stimulate growth rate of FDI inflow more than the growth rate of FDI stimulate economic growth. This result also supports the study of Gohou and Soumare (2012) that the impact of enhancement of GDP led more increase in FDI of developing countries as compared to developed countries. Hence, the more developed the country is the more it attract FDI that again translate to higher economic growth.

Short – run Relationship

This part of the study discusses the result of the $D(\ln FDI)$ equation in the error-correction model from which the short run impact of Gross Fixed Capital Formation (GFCF), inflation (INF), Gross Domestic Product (GDP), Debt servicing (DS), Openness (OP), and Human Capital (HC) on Foreign Direct Investment (FDI) can be analyzed.

As it can be seen from table 5.6, the coefficient of the error correction term for the equation is negative and significant as expected. This tells us that there is a reasonable adjustment towards the long run steady state. This guarantees that although our dependent variable FDI may temporarily deviate from its long-run equilibrium value, it would gradually converge to its equilibrium. The error correction term of -0.645434 shows that about 64.5 percent of the deviation of the FDI from its equilibrium value is eliminated every year; hence, full adjustment would require a period of less than two years.

From the table GFCF is significant and its coefficient is negatively related to FDI. This indicates that the poor infrastructural facilities in Ethiopia having an unfavorable effect on FDI since lack of proper infrastructure increases the cost of doing business.

The inflation variable (consumer price index) is significant with the expected sign. This implies that macroeconomic stability is an important short run determinant of foreign direct investment in Ethiopia.

The Gross Domestic Product is positive and significant in the short run and this finding supports the hypothesis that a growing economy attract more FDI. While the remaining variables of debt

servicing , openness, and human capital has a positive coefficient but are insignificant in the short run.

Table 5.7 Short run coefficient with dependent variable : lnFDI

Error Correction	Dependent Variable : D(lnFDI)			
	Coefficient	Standard Error	t-value	p-value
D(lnGFCF(-1))	-11.023242	3.016313	-3.654542	0.001813
D(lnGFCF(-2))	-4.834108	2.098701	-2.303381	0.033398
D(lnINF(-1))	-8.8310298	4.096791	-2.155596	0.044897
D(lnINF(-2))	-11.503674	4.223583	-2.723676	0.013932
D(lnGDP(-1))	10.804318	3.716254	2.907313	0.009395
D(lnGDP(-2))	9.228710	3.742522	2.465906	0.023942
D(lnDS(-1))	1.390298	0.838283	1.658504	0.114539
D(lnDS(-2))	0.399471	0.726234	0.550058	0.589040
D(lnOP(-1))	7.556647	2.333114	3.238867	0.004555
D(lnOP(-2))	2.709592	2.212977	1.224410	0.236581
D(lnHC(-1))	4.865341	2.900860	1.677206	0.110781
D(lnHC(-2))	-0.509276	3.056534	-0.166618	0.869527
ECM1(-1)	-0.645434	0.251767	-2.563616	0.0006*
ECM2 (-1)	-0.114153	0.282946	-0.403444	0.6898

5.2.1.2 Post – Estimation Diagnostics

The study conducted different post-estimation diagnostic tests to guarantee that the residuals from the model are Gaussian that the assumptions are not violated and the estimation results and inferences are trustworthy. We have also tested for autocorrelation, normality and heteroscedasticity and the results are presented as follows:

Residual Vector Normality Test

Normality is checked mainly by using the Jarque-Bera test. The result shows that the residual vector of the model is found to be jointly normal only at the 10% level. However, since normality is an asymptotic or large sample property, it may be expected that the residual normality could asymptotically be improved if the sample size could be increased. Unfortunately, the sample size could not be increased because of investment data. This may suggest that there could be small sample size problem in the data that has probably reduced the power of this test.

Residual Vector Serial Correlation LM Test

In the analysis there is no evidence that reveals the presence of autocorrelation at the first and the second lags. The large p-values imply that the chi-squared statistics at all lags are not large enough to help reject the null of no autocorrelation at any of the usual critical values. Thus, the study could not find any evidence of autocorrelation problem in the residuals.

Residual Vector Heteroskedasticity Test

The study used the ARCH heteroskedasticity test. In here, the null hypothesis is there is no ARCH effect or no heteroskedasticity. Therefore, testing the variables the p-value become 58.76% so we accept the null hypothesis. This, together with the results of the other pre and post estimation diagnostic tests, suggests the validity and robustness of the estimated results.

Table 5.8 Diagnostic Test Result

Test	Statistics		P – value
Residual Vector Normality(Jarque-Bera)	Joint	25.87	0.0783
Residual Vector Serial Correlation LM	Lags	Chi-sq	
	1	10.86	0.89777
	2	39.55	0.8206
Residual Vector Heteroskedasticity		61.04	0.5876

5.2.1.4 Impulse Response

The impulse response function traces the effect of a one standard deviation shock to one of the innovations on the current and future values of the endogenous variables. In other words, impulse response functions could tell us how real per capita GDP may respond, at a given time, to a one standard deviation innovation (impulse) generated from any of the variables in earlier times and how that effect may be multiplied. By this Impulse response functions may supplement the short run analysis since it shows us the dynamic impact of changes or impulses in the variables in the model on foreign direct investment, given the model is stable.

Cholesky's impulse response analyses are sensitive to the ordering of the variables and the lag length (see for example Lutkepohl, 1990). Thus to account of this problem, the results in this

study are based on the generalized impulse response functions (GIRFs) based on the works of Pesaran and shin (1998).

In this study, results of impulse response indicate that trade openness and FDI exhibit negative relation in the short run. This is seen at appendix 4, first row and sixth column .In hear, the effect of one standard deviation shock of trade openness on FDI is negative in the short run over the entire period. Therefore, this result suggests that in the short run Ethiopia trade openness have negative impact on FDI. This result is due to the government restrictive policies on some of the economic sectors such as financial and in the telecommunication sectors.

Similarly, in the short run there is a negative relation between debt servicing and FDI as it is seen at the fifth column of the first row. This is the effect of one standard deviation shock of debt servicing on FDI is negative in the short run. This is due to Ethiopia's limited potential for servicing of debt.

Other variables such as Gross Fixed Capital formation, inflation, and Gross Domestic Capital shows a positive relation with FDI on the generalized one S.D. innovation though there was initial ups and downs in the graph.

5.2.1.5 Variance Decomposition

The variance decomposition test indicates the amount of information each variable contributes to the other variables in the auto regression. This test determines how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables. Hence, in this study the Variance Decomposition test indicates how much of the uncertainty surrounding the prediction of lnFDI can be explained by the uncertainty surrounding the other variables. This study conduct a full decomposition of the variation in the lnFDI for the first 30 periods as it is presented in appendix 5.

Table 5.9 Variance Decomposition of lnFDI

Variance Decomposition of LNFDI:								
Period	S.E.	LNFDI	LNGFCF	LNINF	LNNGDP	LNODS	LNOP	LNSENROLL
1	1.164346	100	0	0	0	0	0	0
2	1.263039	85.1257	4.474446	7.635838	0.381597	0.040178	0.495986	1.846257
3	1.455458	64.1228	15.80834	5.910818	3.712693	3.284708	2.91558	4.245057
5	1.894652	48.35336	9.356488	13.77703	14.56314	8.48745	1.834972	3.627557
6	1.978023	45.17188	9.142706	15.96683	15.72177	8.373329	1.99198	3.631505
12	3.871121	20.55376	23.07073	21.77848	26.92698	4.985794	1.636926	1.047328
15	5.268174	19.5566	32.05861	13.55481	30.2991	2.717022	1.113627	0.700226
30	12.06517	20.35185	33.03698	13.38389	27.09057	4.894015	0.967364	0.275334

In the process of testing at the first period of the test result indicate that all the variation in lnFDI is explained by the lagged value of the variable itself. However, in the second period inflation explain about 7.6% of the variation and at the third period Gross Fixed Capital Formation take the lead on having strong variation of about 15.8% and continue to have strong influence until period five when Gross Domestic Product takes about 14.56% of the total share. Then again inflation takes the huge share in explaining the variation until the eleven period. At twelve period Gross Domestic Product own huge share until the fifteenth period and after wards most of the variation is explained by Gross Fixed Capital Formation. In general, in the entire 30 period results huge forecast error variation in the lnFDI is more explained by Gross Fixed Capital Formation, Gross Domestic Product , the lagged values of the Foreign direct investment itself and the inflation rate, over the 30 years each accounts for 33.03%, 27.09%, 20.35% and 13.38% ,respectively. While as it can be seen on the appendix the share of other variables such as debt servicing & openness is minimum. Human capital has the lowest share as compared to the other variables this implies that human capital does not have a great influence on foreign direct investment.

Chapter six: Conclusion and policy implication

6.1 conclusion

At the present time the inflow of FDI in Ethiopia is increasing by an alarming rate making the country the third largest recipient in Africa according to world investment report released on 2014, evaluating the trend and analyzing the data of some periods indicate two things. Firstly, there is no consistent growth in the trend of FDI inflows. i.e., for instance in 2013 FDI was 279 million dollars but in the following year it became 953 million dollars with a 240 percent increase. The other one is the amount of FDI is easily affected by many macroeconomic variables. Hence, it is the main intention of this paper to determine which determinant of FDI have huge role in altering the inflow of FDI so that identification of the factor helps to improve and bring a consistent growth of foreign direct investment in the country.

This study identified different determinants of FDI to see their impact in altering the inflow of FDI. These economic variables are used in the time series datas of about fourty years that were collected from secondary sources and taken to test which of these variables highly influence the inflow of Foreign Direct Investment. After the selection of variables the study proceed to unit root testing and co integration approach and then to vector error correction approach. The study also uses variance decomposition and impulse response in order to analyze the response of FDI to the other determinants of FDI.

In estimating the result it is found that in the long run except inflation rate all other variables such as Openness , Gross Domestic Product , Human Capital , Gross Fixed Capital Formation, and Debt servicing have positive coefficient and are statically significant. However, in the short run Gross Fixed Capital Formation and inflation are significant with negative coefficients and Gross Domestic Product is positively related with FDI and it is significant while openness is significant only at 10% with positive coefficient. However, human capital is non-significant with negative coefficient.

Results of impulse response indicate that trade openness and FDI exhibit negative relation in the short run. This result is due to the government restrictive policies on some of the economic sectors such as financial and in the telecommunication sectors. Similarly, in the short run there is a negative relation between debt servicing and FDI. This is due to Ethiopia's limited potential for

servicing of debt. Other variables such as Gross Fixed Capital formation, inflation, and Gross Domestic product shows a positive relation with FDI though they were negatively related at the initial period. From the variance decomposition analysis it was testing at the first period of the test result indicate that all the variation in lnFDI is explained by the lagged value of the variable itself. However, in the second period inflation explain about 7.6% of the variation and at the third period Gross Fixed Capital Formation take the lead on having strong variation of about 15.8% and continue to have strong influence until period five when Gross Domestic Product takes about 14.56% of the total share. Then again inflation takes the huge share in explaining the variation until the eleven period. At twelve period Gross Domestic Product own huge share until the fifteenth period and after wards most of the variation is explained by Gross Fixed Capital Formation.

6.2 Policy implication

In order to reap the benefit from foreign direct investment countries are expected to conduct numerous studies at national level on the challenges in investing to the country. Recognizing the rapidly growing investment destination of Ethiopia, still many tasks must be done in order to operate smoothly so that the country will benefit from this sector.

As it can be seen from the time series analysis of FDI in Ethiopia, foreign direct investment is more determined by infrastructural activities, market size, macroeconomic stability, human capital and openness in long run case. Hence, in order to increase the inflow of FDI first it is very crucial to concentrate on the above economic activities.

The other factor is there should be a market system that support moderate competition and free entry so that both the domestic and the foreign firms enhance their managerial and technological capacity because prevalence of significant market power may lead to reduce the benefits of the foreign investors that would also translate to exploitation of consumers and workers in the market. In addition to that, the government should give more attention on the potential crowding out effect on domestic investment. This can be done in a way that to create competitive advantage and benefit from spillover effect and the countries should have a higher absorptive capability of advanced technology to fully utilize of FDI benefit.

In our time series analysis we found that economic growth has positive and significant effect on FDI. These suggest the decisive role of growth in stimulating investment by foreign as well as domestic investors. Hence, the current fast economic growth of the country signals a country's economic prospects and encourages foreign investors. Keeping up the growth momentum and ascertaining its sustainability is a key to attracting more FDI. Strengthening the growth performance of the economy through the creation of favorable macroeconomic environment, developing vital infrastructure, ensuring the quality of institutions as well as improving the quality of human capital are some of the important measures essential to attract FDI.

As a final notice before deciding to presented the final estimation of econometric results above, I have tried different estimations by including different other variables in addition to the current explanatory variables presented in chapter four but the nature of the data is making the estimation so difficult to make any conclusion in addition to a very few observations. There is also poor documentation problem in the governmental organizations that made data collection to the study to be challenging.

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Appendices

Appendix I

Investment areas open for foreign investors

The following areas are open for foreign investors

1 Manufacturing

1. Food industry
2. Beverage industry
3. Textiles and textiles products industry
4. Leather and leather products industry
5. Wood products industry
6. Paper and paper products industry
7. Chemical and chemical products industry
8. Basic pharmaceutical products and pharmaceutical preparations industry
9. Rubber and plastics products industry
10. Other non-metallic mineral products industry
11. Basic metal industry (excluding mining of minerals)
12. Fabricated metal products industry (excluding machinery and equipment)
13. Computer, electronic and optical products industry
14. Electrical products industry
15. Machinery and equipment industry
16. Vehicles, trailers, and semi trailer industry
17. Manufacturing of office and household furniture (excluding those made of ceramic)
18. Manufacturing of other equipment (jewellers and related articles, musical instruments, sports equipment, games and toys and similar products)
19. Integrated manufacturing with agriculture

2 Agriculture

1. Crop production
2. Animal production
3. Mixed (crop and animal) farming
4. Forestry

**3 Information Communication
Technology (ICT)**

**4 Generation, transmission and
supply of electrical energy**

5 Hotel and tourism

1. Star designated hotel and resort, motel, lodges and restaurant
2. Grade one tour operation

6 Construction contracting

1. Construction contracting, water well and mineral exploration drilling grade one

7 Real estate development

8 Education and training

1. Secondary and higher education by constructing own building
2. Technical and vocational training service including sport

9 Health services

1. Hospital service by constructing own building

**10 Architectural and engineering works and related technical services,
technical testing and analysis**

11 Publishing

12 Import trade

1. Importation of LPG and bitumen

13 Export trade

1. Export trade (excluding raw coffee, chat, oil seeds, pulses, precious minerals, natural forestry products, hides and skins bought from the market, and live sheep, goats, camel, equines and cattle not raised by the investor.)

14 Whole sale trade

Supply of petroleum and its by-products as well as whole sale of own

products

Appendix 2

Areas of investment eligible for exemption of customs duty

The following areas of investment are eligible for exemption of capital goods and construction materials from customs duty.

1 Manufacturing

1. Food industry
2. Beverage industry
3. Textiles and textiles products industry
4. Leather and leather products industry
5. Wood products industry
6. Paper and paper products industry
7. Chemical and chemical products industry
8. Basic pharmaceutical products and pharmaceutical preparations industry
9. Rubber and plastics products industry
10. Other non-metallic mineral products industry
11. Basic metal industry (excluding mining of minerals)
12. Fabricated metal products industry (excluding machinery and equipment)
13. Computer, electronic and optical products industry
14. Electrical products industry
15. Machinery and equipment industry
16. Vehicles, trailers, and semi trailer industry
17. Manufacturing of office and household furniture
18. Manufacturing of other equipment
19. Integrated manufacturing with agriculture

2 Agriculture

1. Crop production
2. Animal production
3. Mixed (crop and animal) farming
4. Forestry

3 Information Communication Technology (ICT)

4 Generation, transmission and supply of electrical energy

5 Hotel and tourism

1. Star designated hotel and resort, motel, lodges and restaurant
2. Tour operation grade one
3. Tour operation below grade one

6 Construction contracting

1. Construction contracting, water well and mineral exploration drilling grade one
2. Construction contracting, water well and mineral exploration drilling below grade one

7 Education and training

1. Kindergarten, elementary and junior secondary education by constructing own building
2. Secondary and higher education by constructing own building
3. Technical and vocational training service including sport

8 Health services

1. Clinical service by constructing own building
2. Diagnostic service by constructing own building
3. Hospital service by constructing own building

9 Architectural and engineering works and related technical services, technical testing and analysis

10 Capital goods leasing excluding leasing of motor vehicles

11 Import trade

1. Importation of LPG and bitumen

Appendix 3

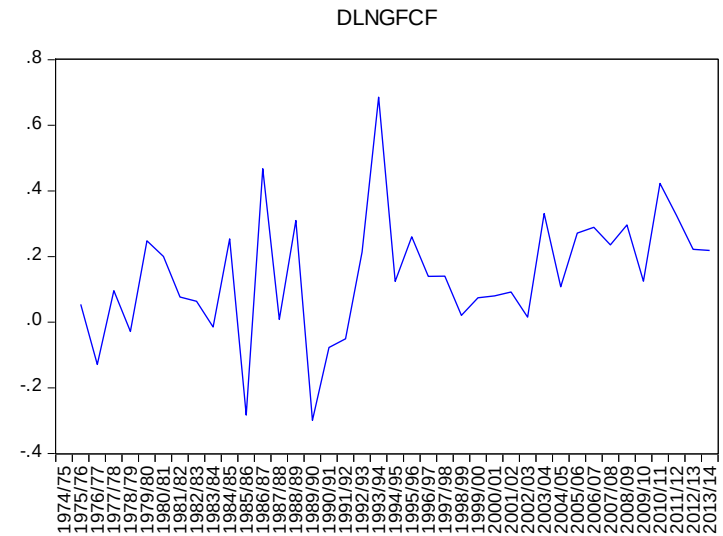
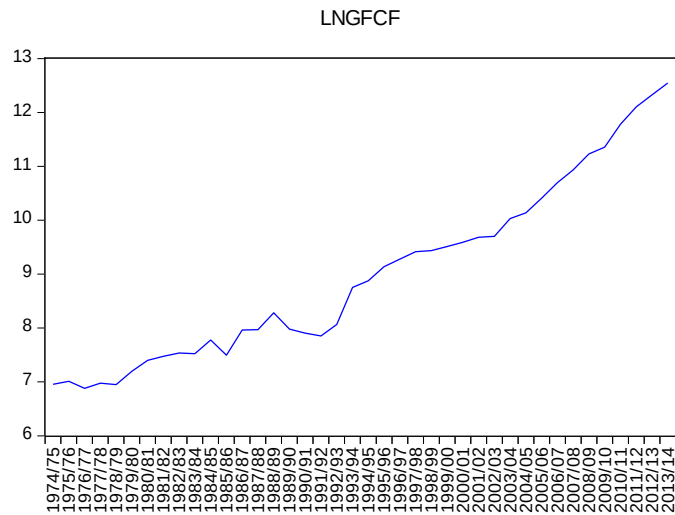
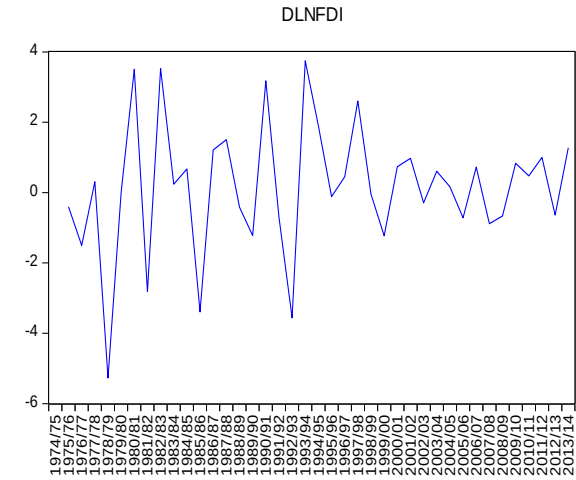
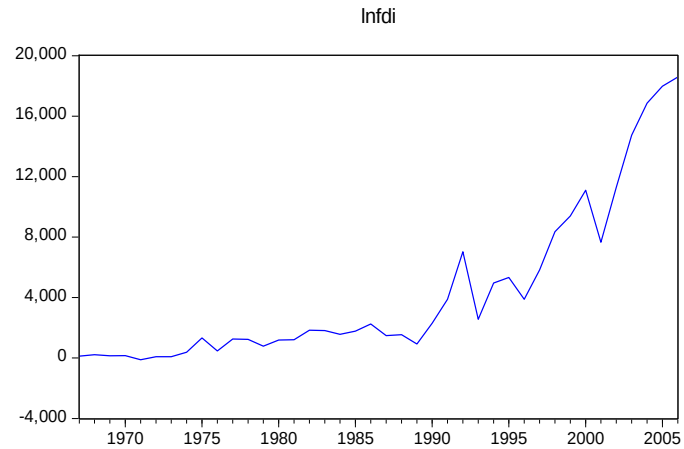
Areas of investment eligible for exemption of income tax
The following areas of investment are eligible for exemption of income tax.

No.	Areas of Investment	Addis Ababa and Special Zone of Oromia Surrounding Addis Ababa	Other Areas
1	Manufacturing		
1.	Food industry	1 up to 5 years	2 up to 6 years
1.	Beverage industry	1 up to 3 years	2 up to 4 years
1.	Textiles and textiles products industry	2 up to 5 years	3 up to 6 years
1.	Leather and leather products industry (Except tanning of hides and skins below finished level)	5 years	6 years
1.	Wood products industry	2 years	3 years
1.	Paper and paper products industry	1 up to 5 years	2 up to 6 years
1.	Chemical and chemical products industry	2 up to 5 years	3 up to 6 years
1.	Basic pharmaceutical products and pharmaceutical preparations industry	4 or 5 years	5 or 6 years
1.	Rubber and plastics products industry	1 up to 4 years	2 up to 5 years
		1 up to 4 years	2 up to 5 years

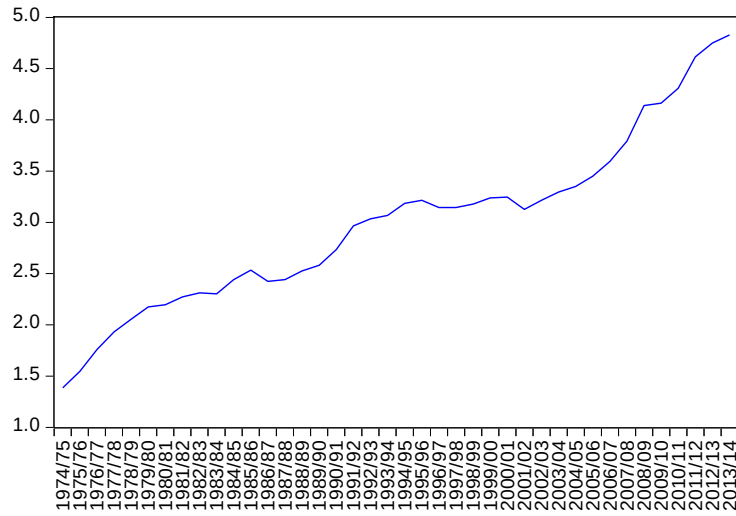
1.	Other non-metallic mineral products industry (Except manufacturing of cement in Addis Ababa and its surrounding and manufacturing of clay and cement products both in Addis Ababa and other areas)		
1.	Basic metal industry (excluding mining of minerals)	3 up to 5 years	4 up to 6 years
1.	Fabricated metal products industry (excluding machinery and equipment)	1 or 3 years	2 or 4 years
1.	Computer, electronic and optical products industry	2 up to 4 years	3 up to 5 years
1.	Electrical products industry	2 or 4 years	4 or 5 years
1.	Machinery and equipment industry	5 years	6 years
1.	Vehicles, trailers, and semi trailer industry	2 up to 5 years	3 up to 6 years
1.	Manufacturing of office and household furniture (excluding those made of ceramic)	1 year	2 years
1.	Manufacturing of other equipment (jewellers and related articles, musical instruments, sports equipment, games and toys and similar products)	1 year	2 years
1.	Integrated manufacturing with agriculture	4 years	5 years
2	Agriculture		
1.	Crop production (Except growing of fiber crops, medium-term spices, aromatic or medicinal crops, perennial fruits, beverage crops and other perennial crops in Addis Ababa and its surroundings)	2 or 3 years	3 up to 6 years
1.	Animal production (Except farming of wild animals and production of milk, eggs and similar products in Addis Ababa and its surroundings)	2 or 3 years	3 or 4 years
1.	Mixed (crop and animal) farming	3 years	4 years
		8 years	9 years

1.	Forestry		
3	Information Communication Technology	4 years	5 years
4	Generation, transmission and supply of electrical energy	4 years	5 years

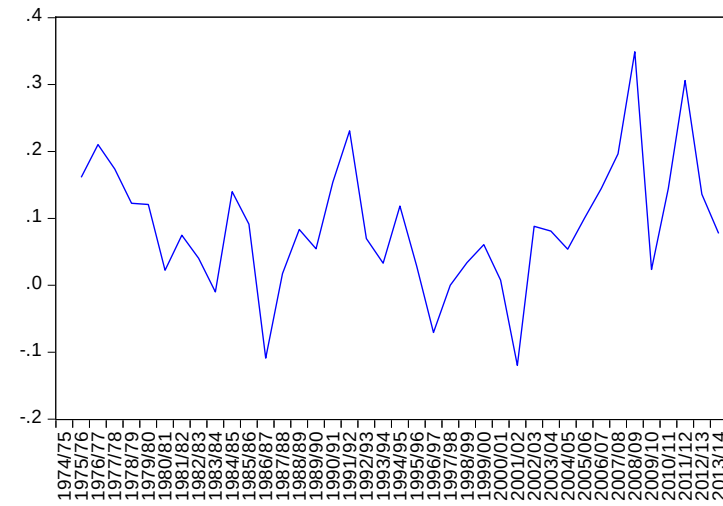
Appendix 4: Time Series Plots



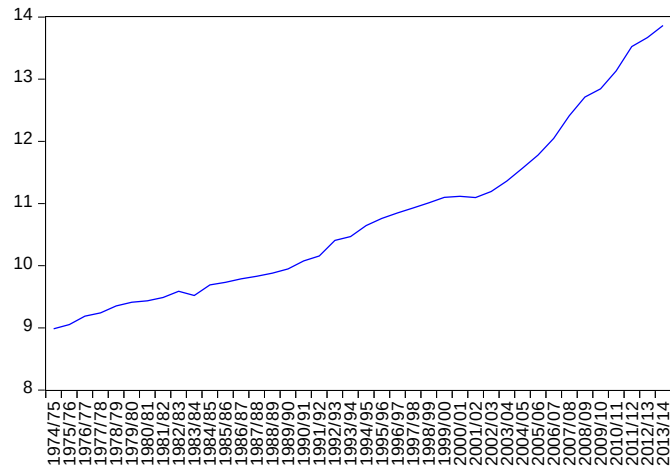
LNINF



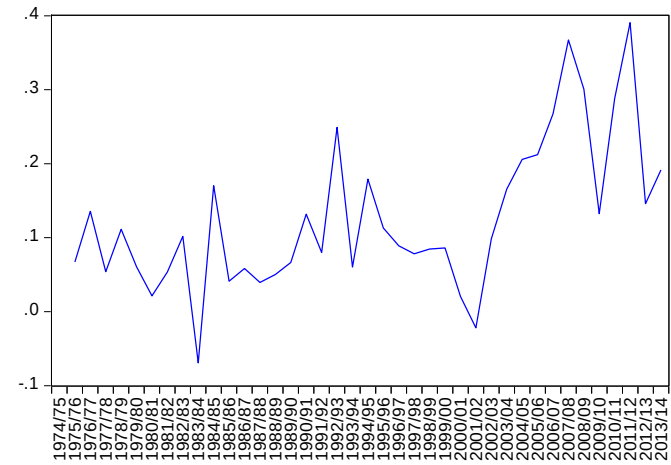
DLNINF



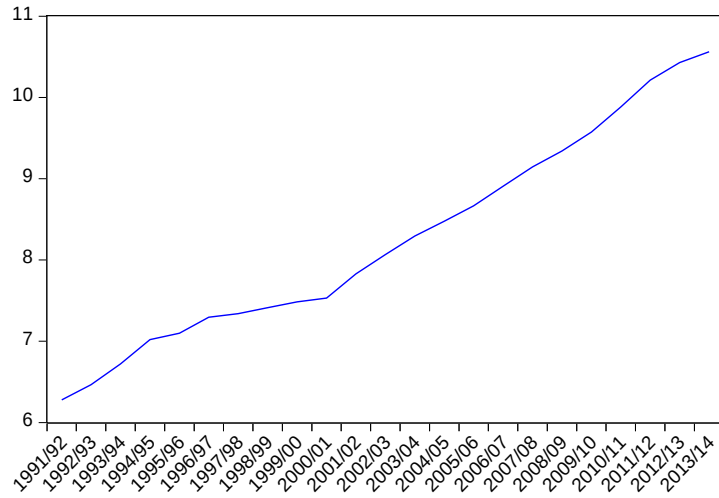
LNNGDP



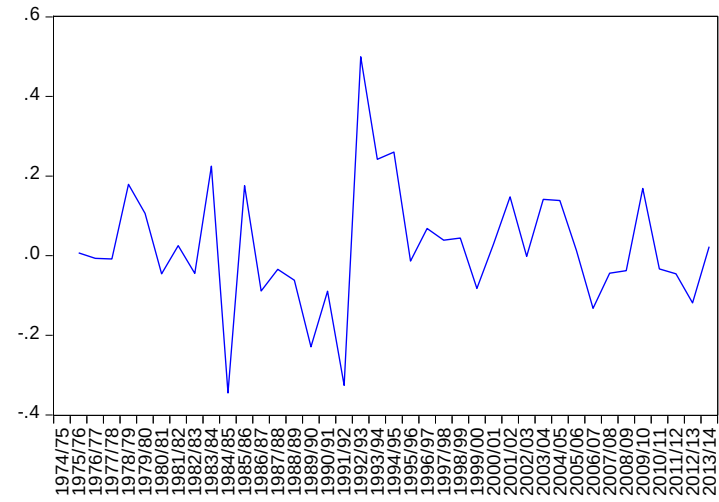
DLNNGDP



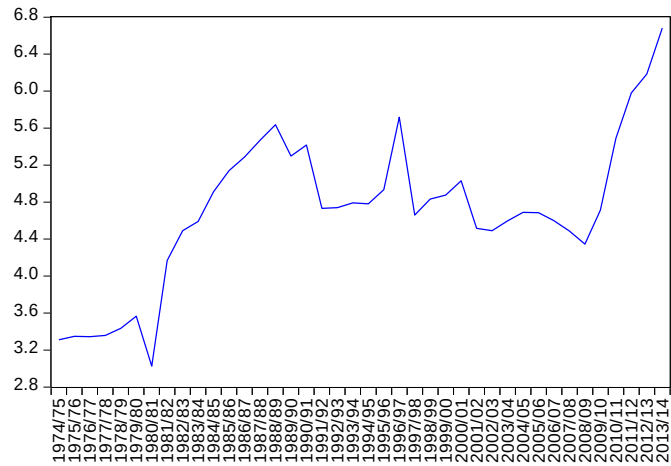
LNOP



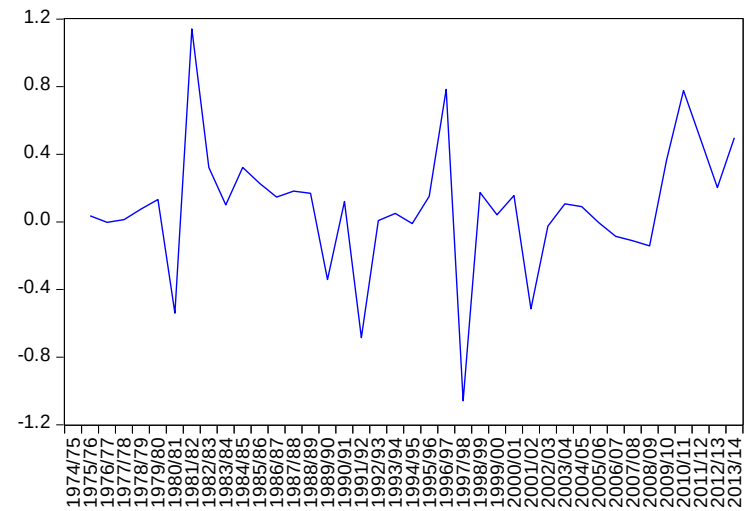
DLNOP

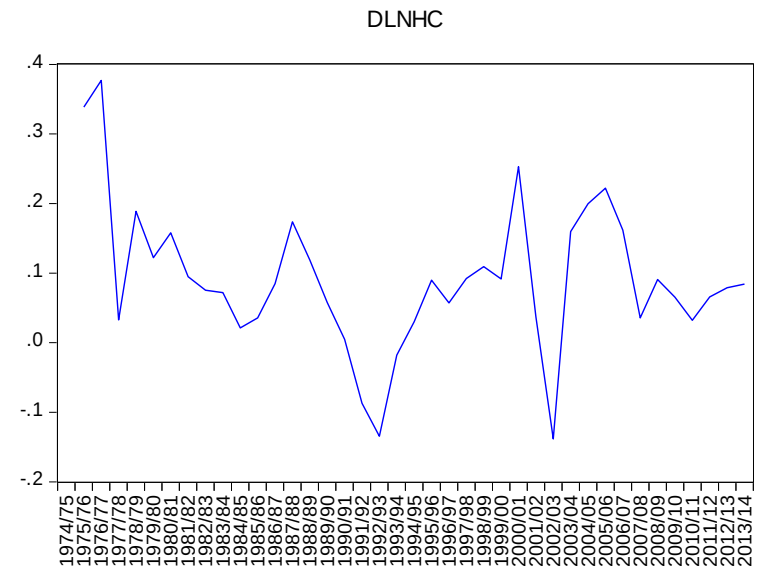
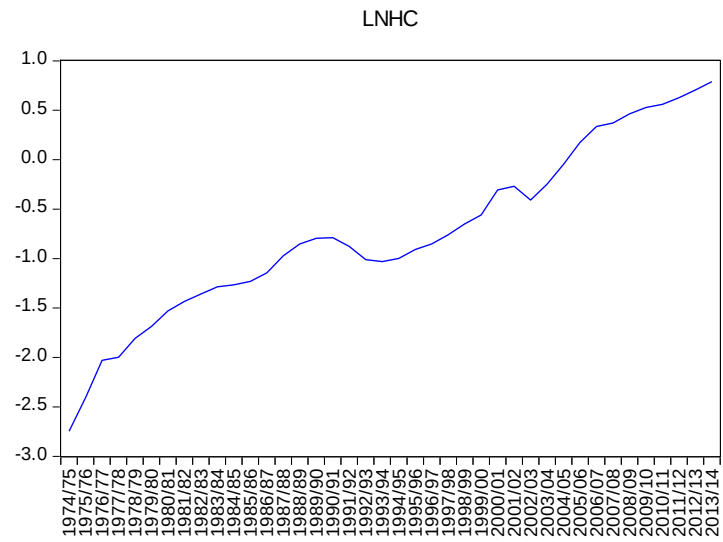


LNDS



DLNDS





Appendix 5: Philips –Perron Stationarity Test Result

	Variables	Test statistics under different assumptions			Order of Integration
		Intercept	Trend and Intercept	No Trend , No Intercept	
1.	lnFDI	(-0.911945)	(-3.938645)	(0.042901)	I(1)
	D(lnFDI)	(-8.361984)*	(-7.960808)	(-8.013222)	
2.	lnOP	(-1.3379681)	(-2.141405)	(-1.099670)	I(1)
	D(lnOP)	(-6.409382)	(-6.319519)	(-6.384704) *	
3.	lnINF	(0.103618)	(-1.494792)	(4.065115)	I(1)
	D(lnINF)	(-4.183113)*	(-4.173716)	(-2.858963)	
4.	lnHC	(-1.720124)	(-3.054024)	(-3.402455)	I(1)
	D(lnHC)	(-4.237301)*	(-4.064737)	(-3.277201)	
6.	lnDS	(-1.001016)	(-1.727512)	(1.287589)	I(1)
	D(lnDS)	(-6.604482)	(-6.536314)	(-6.370076)*	
7.	lnGFCF	(6.172092)	(-0.924335)	(5.903969)	I(1)
	D(lnGFCF)	(-6.211929)*	(-7.810578)	(-4.362314)	
8.	lnGDP	(3.894610)	(0.696079)	(5.557719)	I(1)
	D(lnGDP)	(- 3.633883)*	(- 4.771763)	(-1.461949)	

Note: D shows the variable is differenced once. Note: Mackinnon (1996) one – sided critical values for rejection of a unit root used here. * shows significance at 1%

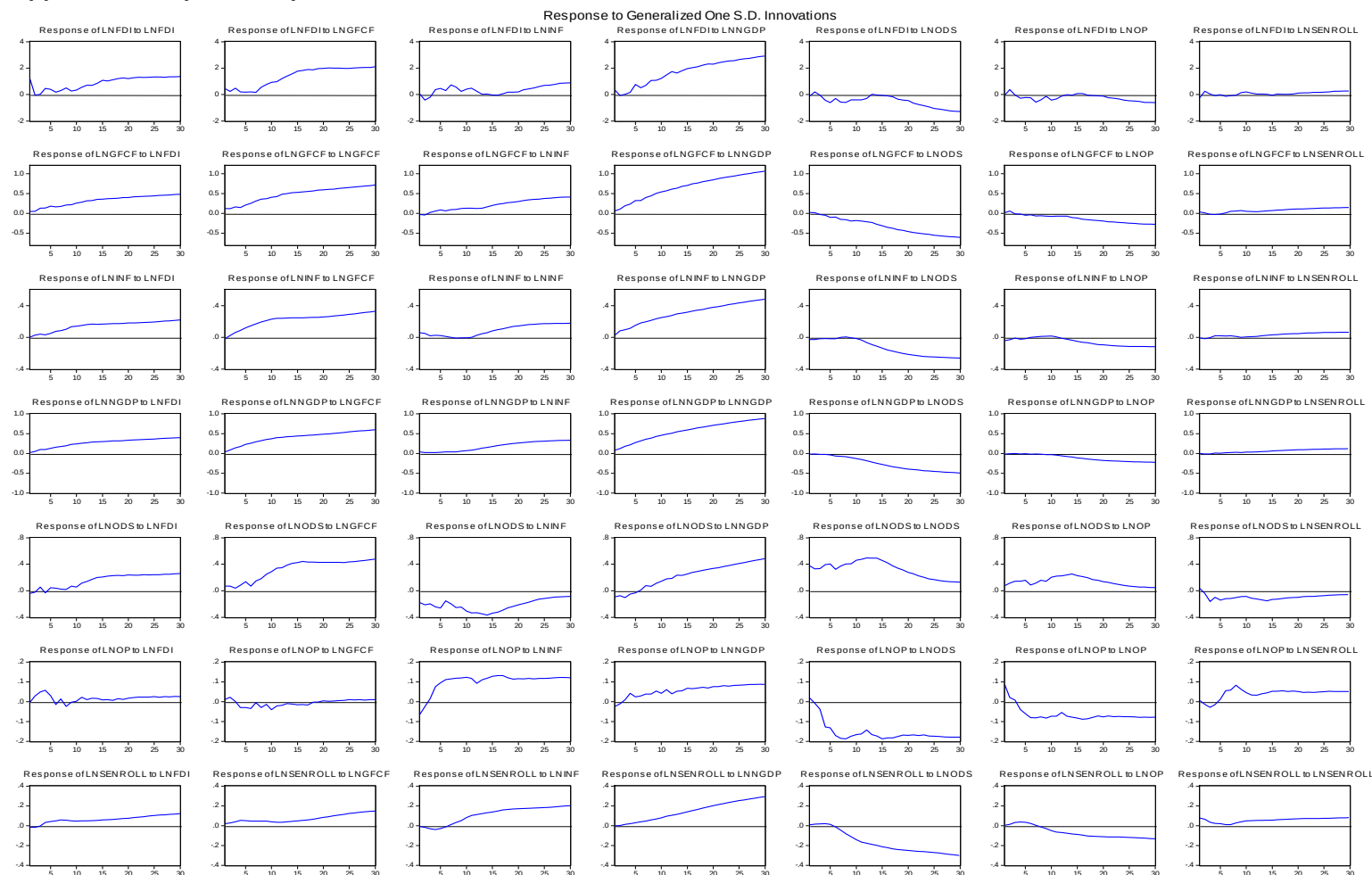
**Annex 6 :
Vector Error
Correction result**

Error Correction:	D(LNFDI)	D(LNGFCF)	D(LNINF)	D(LNNGDP)	D(LNODS)	D(LNOP)	D(LNHC)
CointEq1	-0.6454344 0.251766 [-2.563616]	0.041010 0.025708 [1.59518]	-0.017052 0.0125419 [-1.35963]	0.005626 0.017549 [0.32061]	-0.0801260 0.08119087 [-0.98689]	0.1045233 0.0184257 [5.67269]	-0.000386 0.016664 [-0.02320]
CointEq2	0.114153 0.282946 [0.403444]	-1.1366233 0.3619561 [-3.14033]	-0.07760719 0.1765791 [-0.43950]	-0.0421496 0.2470804 [-0.17059]	-0.13722722 1.14309314 [-0.12005]	-0.33094261 0.2594171 [-1.27572]	0.0790927 0.2346272 [0.33710]
CointEq3	2.711122 3.1101697 [0.87170]	-0.2438204 0.3175903 [-0.76772]	-0.87704100 0.1549354 [-5.66069]	-0.59790 0.2167952 [-2.75794]	-2.0014051 1.00298158 [-1.99546]	0.489247 0.2276198 [2.14940]	-0.135270 0.2058684 [-0.65707]
CointEq4	-8.96592466 3.73643466 [-2.39959]	1.34719811 0.38154046 [3.53094]	0.62734553 0.1861332 [3.37041]	0.36750669 0.26044921 [1.41105]	1.4787791 1.2049423 [1.22726]	-0.065083 0.2734534 [-0.23800]	-0.0032316 0.2473222 [-0.01307]
CointEq5	-1.3815100 0.62500450 [-2.21040]	-0.0038632 0.0638214 [-0.06053]	-0.0193532 0.03113506 [-0.62159]	-0.038751 0.0435661 [-0.88948]	0.17053846 0.2015542 [0.84612]	-0.2469570 0.0457413 [-5.39899]	0.033988 0.0413703 [0.82156]
D(LNFDI(-1))	0.01713368 0.199165676 [0.08603]	-0.0377555 0.02033750 [-1.85645]	0.02426419 0.009921587 [2.44560]	-0.0007742 0.01388289 [-0.05577]	0.0698331 0.06422784 [1.08727]	-0.0893501 0.014576071 [-6.12992]	-0.00892911 0.01318318 [-0.67731]
D(LNFDI(-2))	-0.22843842 0.1548314 [-1.47540]	-0.0007613 0.0158103 [-0.04815]	0.0293018 0.00771304 [3.79899]	0.0303292 0.010792 [2.81020]	0.133380 0.0499307 [2.67131]	-0.0510094 0.01133144 [-4.50159]	-0.0120970 0.01024861 [-1.18036]
D(LNGFCF(-1))	-11.0232420466 3.01631325899 [-3.65454]	0.354664712 0.308006340 [1.15149]	-0.12988433668 0.15025990592 [-0.86440]	0.02862111065 0.21025294833 [0.13613]	-0.037915179 0.972714310 [-0.03898]	0.66402175990 0.22075087533 [3.00801]	0.02355498283 0.19965590290 [0.11798]
D(LNGFCF(-2))	-4.83410832521 0.362572250 -0.13324425758	-0.02926251775 0.126379152 0.61175990339	0.03878652041				

	2.09870104262	0.214305734	0.10454836555	0.14629053549	0.676798582	0.15359482005	0.13891728597
	[-2.30338]	[1.69185]	[-1.27447]	[-0.20003]	[0.18673]	[3.98295]	[0.27921]
D(LNINF(-1))	-8.83102978104	-1.231427253	-0.28955959813	-0.46630265768	-0.147351927	-0.65353109014	0.13351070944
	4.09679126027	0.418337744	0.20408472745	0.28556796566	1.321151732	0.29982637051	0.27117493703
	[-2.15560]	[-2.94362]	[-1.41882]	[-1.63290]	[-0.11153]	[-2.17970]	[0.49234]
D(LNINF(-2))	-11.5036737531	-0.944978933	-0.26893506259	-0.17022529427	2.652673423	-0.07120021980	0.00424615099
	4.22358370522	0.431284966	0.21040098814	0.29440606803	1.362040332	0.30910575922	0.27956758657
	[-2.72368]	[-2.19108]	[-1.27820]	[-0.57820]	[1.94757]	[-0.23034]	[0.01519]
D(LNNGDP(-1))	10.8043176024	0.281739247	0.49663880143	0.42538402410	-0.715937172	-0.38392603775	0.03227473776
	3.71625497640	0.379479848	0.18512802723	0.25904257895	1.198434674	0.27197657158	0.24598646726
	[2.90731]	[0.74244]	[2.68268]	[1.64214]	[-0.59739]	[-1.41161]	[0.13121]
D(LNNGDP(-2))	9.22871004385	1.003686539	0.37568025691	0.82546310468	-0.628692193	-0.14329149457	0.09674279600
	3.74252224790	0.382162091	0.18643655105	0.26087354636	1.206905462	0.27389895917	0.24772515133
	[2.46591]	[2.62634]	[2.01506]	[3.16423]	[-0.52091]	[-0.52315]	[0.39052]
D(LNODS(-1))	1.39029726115	-0.012128041	0.01002153780	0.03267998387	-0.376007335	0.17771180659	-0.02198727540
	0.83828385518	0.085600108	0.04175973859	0.05843280752	0.270333560	0.06135035685	0.05548771153
	[1.65850]	[-0.14168]	[0.23998]	[0.55927]	[-1.39090]	[2.89667]	[-0.39625]
D(LNODS(-2))	0.39947083769	-0.049938739	-0.01488039356	8.73447374007	-0.101836776	0.16509686538	-0.02341907383
	0.72623399675	0.074158304	0.03617789091	0.05062234121	0.234199216	0.05314991405	0.04807090374
	[0.55006]	[-0.67341]	[-0.41131]	[0.00173]	[-0.43483]	[3.10625]	[-0.48718]
D(LNOP(-1))	7.55664665856	0.150553642	0.17691970705	0.05200252842	-0.685700390	-0.42019817961	-0.20651546863
	2.33311410462	0.238242475	0.11622582795	0.16263036268	0.752393164	0.17075049460	0.15443356281
	[3.23887]	[0.63193]	[1.52221]	[0.31976]	[-0.91136]	[-2.46089]	[-1.33724]
D(LNOP(-2))	2.70959158	-0.133057	0.29605764046	0.22898883659	0.864569199	-0.19476372259	-0.0602262
	2.21297729	0.225974	0.11024112259	0.15425619302	0.713650903	0.16195820275	0.1464814
	[1.22441]	[-0.58882]	[2.68555]	[1.48447]	[1.21147]	[-1.20256]	[-0.41115]
D(LNHC(-1))	4.8653412	-0.12069	-0.241091	-0.311757	-0.77392	-0.380064	-0.073831
	2.900860	0.29621	0.1445085	0.2022052	0.935482	0.21230	0.192013
	[1.67721]	[-0.40746]	[-1.66835]	[-1.54179]	[-0.82730]	[-1.79021]	[-0.38451]
D(LNHC(-2))	-0.5092763	-0.282734	-0.051531	-0.125906	-1.83729	-0.575148	-0.237552
	3.0565343	0.312113	0.152263554	0.2130565	0.985685	0.2236944	0.202318

[-0.16662] [-0.90587] [-0.33844] [-0.59095] [-1.86397] [-2.57113] [-1.17415]

Appendix 7: Impulse Response function



**Appendix 8: Variance
Decomposition of InFDI**

Variance Decomposition of LNFDI:								
Period	S.E.	LNFDI	LNGFCF	LNINF	LNNGDP	LNODS	LNOP	LNSENROLL
1	1.164346	100	0	0	0	0	0	0
2	1.263039	85.1257	4.474446	7.635838	0.381597	0.040178	0.495986	1.846257
3	1.455458	64.1228	15.80834	5.910818	3.712693	3.284708	2.91558	4.245057
4	1.640149	58.65337	12.46687	9.898101	7.069447	5.997182	2.335927	3.579097
5	1.894652	48.35336	9.356488	13.77703	14.56314	8.48745	1.834972	3.627557
6	1.978023	45.17188	9.142706	15.96683	15.72177	8.373329	1.99198	3.631505
7	2.170781	39.37338	7.628851	25.87559	13.81741	8.324964	1.963703	3.016094
8	2.452391	35.0156	8.512638	28.34288	15.49434	8.418947	1.852052	2.363538
9	2.722098	29.35176	13.6578	25.76336	19.09157	8.392435	1.783157	1.959914
10	3.033335	24.87259	19.06667	26.07264	18.57714	7.572906	2.226655	1.611394
11	3.401067	22.3286	21.01527	25.50039	21.57237	6.314683	1.922102	1.346579
12	3.871121	20.55376	23.07073	21.77848	26.92698	4.985794	1.636926	1.047328
13	4.286745	19.29831	26.90541	18.59625	28.79863	4.09553	1.420401	0.885465
14	4.750195	18.92396	30.00537	16.02281	29.64679	3.337613	1.296261	0.767202
15	5.268174	19.5566	32.05861	13.55481	30.2991	2.717022	1.113627	0.700226
16	5.772511	19.45785	33.79729	11.75779	31.08617	2.283442	1.017282	0.600168
17	6.257503	19.71738	35.16018	10.69176	30.93388	1.975935	0.983384	0.537478
18	6.734546	20.25376	35.41633	10.09245	31.02852	1.818193	0.921685	0.469069
19	7.223753	20.63048	35.68038	9.594424	31.02935	1.767572	0.887886	0.409907
20	7.674712	20.7087	36.20901	9.298446	30.74846	1.798192	0.873478	0.363716
21	8.1306	20.92953	36.32193	9.359308	30.21226	1.971532	0.881152	0.324284
22	8.582442	21.11673	36.10848	9.540798	29.85752	2.212951	0.868975	0.294549
23	9.02987	21.11383	35.83053	9.820719	29.575	2.507337	0.878071	0.274515
24	9.460576	21.13312	35.51522	10.26271	29.13055	2.811113	0.889091	0.258202
25	9.897381	21.10908	35.02817	10.79442	28.745	3.173749	0.897881	0.251701
26	10.33476	21.02619	34.61509	11.27808	28.37894	3.544787	0.90972	0.247182
27	10.7637	20.85697	34.24761	11.80234	28.00234	3.914397	0.926086	0.250262
28	11.198	20.7013	33.82891	12.38128	27.61484	4.272907	0.944554	0.256219
29	11.63207	20.53531	33.39668	12.9087	27.33659	4.602986	0.953782	0.265946